



## Defining the Relationship between Product Life Cycle and Project Life Cycle

based on [Koppensteiner,2007]

Many organizations are aware of the interaction between their product life cycle and their project life cycle. The relationship between them is rarely formally defined. When it comes to process definition often the processes for a product life cycle and a project life cycle are defined separately. This can lead to conflict on both product management and project management side because of misperception of what is in place (or can be known) and what should be in place (what is expected to be known).

A well defined relationship between product and project life cycle would help to clarify the expectations of the different organizations involved in both product and project management side.

In this paper we focus on the definition of a product life cycle, a project life cycle, establish a relationship between these two and identify questions to obtain key information at each stage of the product development life cycle.

### Product Life Cycle

“The product life cycle is the concept that a product goes through several stages in the course of its life: market introduction, market growth, market maturity and sales reduction. At each stage, a product's marketing mix might change, as will its revenue and profit profile” [Perrault-McCarthy, 1997].

Every product lifecycle follows very similar phases. The product lifecycle starts with the idea of a new product in an organization that gets evaluated during the innovation phase. It is followed by the product development phase. After the initial market introduction the product is adapted and then sustained and finally reaches its end of life.

In this short paper we focus on the following phases of the product life cycle from a product development perspective:

- Innovation
- Product Development
- Product Adaptation
- Sustaining
- End of Life

### **Project Life Cycle**

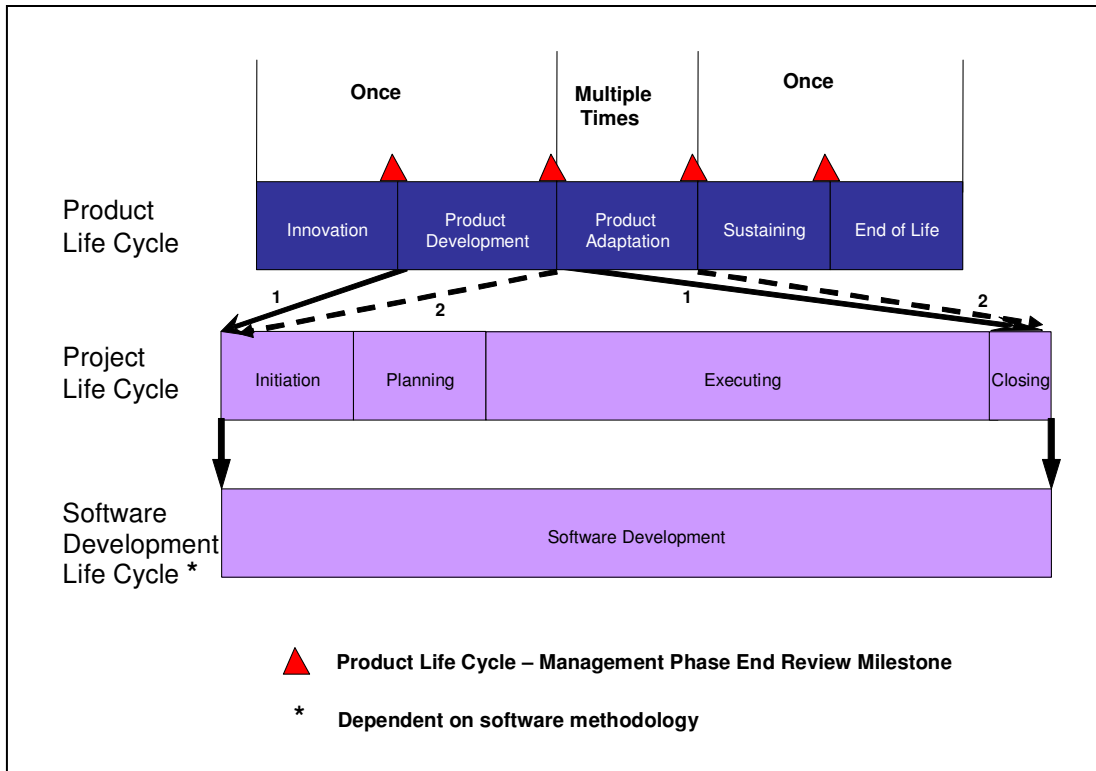
A project life cycle shows typically distinct phases a project passes through as it progresses.

*“Project managers or the organization can divide projects into phases to provide better management control.....Collectively these phases are known as the project life cycle”* [PMI, 2004].

In this paper we apply a project life cycle that consists of the following phases: Initiation, Planning, Executing and Closing [PMI, 2000]. Monitoring and controlling take place as part of all phases to a different degree with expected importance during the executing phase.

### **Mapping Product and Project Life Cycle**

Figure 1 shows the phases of the product life cycle in dark blue and the project life cycle in purple. It is an overview that can be broken down further to show the required and desired level of detail.



**Figure 1: Example of mapping the project life cycle of a software project to the product life cycle [Koppensteiner,2007].**

The project life cycle has to be applied to the product development phase (see solid lines marked with “1” in Figure 1), and the product adaptation phase (dashed lines marked with “2”) of the product life cycle. The product is developed during the product development phase by following the project life cycle once. The product development phase is completed when the product is delivered to the market.

During the product adaptation phase multiple projects are carried out sequentially as an answer to adapt the product to new or additional market needs. This is indicated with the text “multiple times” above the product adaptation phase in Figure 1. At the end of each “adaptation” project the new development is delivered to the market. Depending on the success of the product the product can go through the entire product life cycle.

A product review needs to take place whenever the product moves from one phase to the next. Each phase end review should help management to get all needed information to make relevant decisions for the next phase. Table 1 lists questions that management should ask at the phase end reviews in order to make the decision to move from the current product phase to the next phase. At the end of each “adaptation” project, management assesses if the product meets current market needs. This results in a milestone review for every adaptation (End of Product Adaptation(i) in Table 1).

<b>Review Milestone</b>	<b>Milestone Questions</b>
<b>End of Innovation</b>	Does a product idea exist that is ready for production?  Is the available product idea a good fit for the company and its target market?
<b>End of Product development</b>	Is the implementation done correctly? Is the product functionality meeting customer needs? Is the software product ready for delivery? Is marketing ready to launch the product?
<b>End of Product Adaptation<sub>(i)</sub></b>	Do existing product modifications meet customer demands?
<b>End of Sustaining</b>	How big is the existing customer base that is actively using this product?  Is this customer base ready to transfer to a new product? Can resources supporting this product be shifted to other product developments?
<b>End of Life</b>	Have all customer been transferred to the new product?  Has the infrastructure, the product and its documentation been archived?

**Table 1: Management questions specific for each phase of the product life cycle [Koppensteiner,2007].**

The management reviews that are shown with a red triangle in Figure 1 are only the reviews that take place for the product life cycle. In addition project reviews take place typically at the end of each phase of the project life cycle. The level of information available at each product review is usually determined by the work processes and methodologies that are applied to create and adapt a product.

Figure 1 shows “software development” as an example of a methodology that is applied to create and adapt a product. Breaking down the methodology that is used for product creation or adaption provides details about what information exists at each phase.

## **Conclusion**

The project life cycle is the link between product life cycle and methodology used for creating the product. Further review milestones for the product development and adaptation phase can be identified based on the activities that take place during each step of the methodology applied to create or adapt the product. Mapping the product life cycle with the project life cycle helps to set the expectation of management and performing organizations what information can be available at each key point of the product life cycle and the project life cycle. It clarifies what is in place (or can be known) and what should be in place (what is expected to be known). In addition process errors are likely be detected during the developing of the process map.

For more details or any questions about process mapping please feel free to contact [sonja@interglobeconsulting.com](mailto:sonja@interglobeconsulting.com) or +1.408.807.0443.

## **References:**

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