3. Focus: ESAOA Activities

A KMS exists for any form of knowledge work (e.g. Embedded system development). This thesis focuses on moving a group of engineers from using an ad-hoc KMS that evolved naturally towards a refined KMS through a process of “directed KMS evolution” (See Figure 1). Knowledge management, like knowledge itself, is highly dependent on the type of knowledge work involved. Therefore, to evolve a KMS, detailed study of the knowledge work is needed, to achieve trade-offs and produce specialized knowledge management methods and tools. This project focuses on a specific form of knowledge work, referred to as embedded system artifact organization and adaptation (ESAOA) activities. These activities are closely associated to an engineer’s knowledge of development tools and product components used to construct an embedded system (see below). The research design (Figure 2) focuses on how developers organize and adapt implementation artifacts to create, capture, store, and share knowledge of product components and the use of development tools to implement a product. The results are used to improve the design of the ESAOA framework for managing embedded systems knowledge.

5. Representing & evolving an ESAOA KMS

An ESAOA KMS produced using the framework comprises a set of knowledge management processes (pointed boxes), artifacts (rectangles) and roles (circles). The artifacts and processes are maintained in a “workspace” and are used to produce, capture and manage ESAOA knowledge. This model visualizes part of an ESAOA KMS workspace.

References