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## Enablers for integration to enable more adaptable value chains

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### Abstract

The ever-changing need for improvements in organizations today is a fact. Increasing deviation in requirements from the environments, together with demand for greater product/service adjustments requires more flexible and adaptable value streams. Success criteria's for the organizations would be the ability to quick respond to the demands from the interested parties. Even more important would be the ability to adjust to future needs, which again requires control of the integration process between different actors and units in today's complex organizations. Organizations within the health sector, automobile industry and craft industry are meeting different challenges; nevertheless, they all have to aim for an adaptable and efficient value chain, which delivers the best quality for the patient or customer. This paper will illustrate practices from interdepartmental collaboration processes within these three types of organizations. It will focus on what are the enablers to achieve a smooth and efficient interface between process steps, which further could contribute to achieving more adaptable value chains.

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### 1. Introduction

Nowadays professional organizations are meeting a constantly need for improvement. This is a need driven by, among other factors, ever more demands for adjustments of products or services. To achieve more flexible and adaptable value streams both internal and external factors are important. To succeed with this, companies should put focus on how they are able to meet the demand from its customers, and ability to adjust to future needs by achieving control of process variations and integration between functions in the value chain. Although the craft, automobile and health sector all are facing different challenges; their common focus is to achieve an adaptable and efficient value chain to be able to deliver the best quality of their service or products.

In this paper practices from interdepartmental collaboration processes within a craft producer (CP), mass producer (MP) and a hospital will be presented. Principles and methods used to create a smooth and efficient interface between actors,

which pitfalls they may have experienced, and possible aspects of learning for these two different organizations will be covered. The following research questions will be addressed:

- What are the enablers to achieve integration and further an adaptable value chain in these three value chains?
- In what ways are there similarities or differences between these three sectors?

This article is structured as follows; Firstly, the concept integration is presented followed by the research design and case studies. Next part focuses on the perception of enablers for integration in these three case studies. Finally, the conclusion and suggestions for further work are presented.

### 2. Adaptable value chains and integration

When organizations aim towards optimizing their value

chain, their main focus often is to optimize each process step, while to secure and optimize the interfaces between steps achieves minor focus.

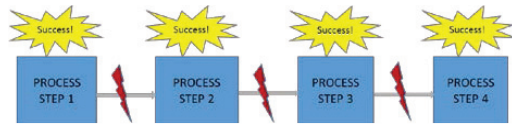


Fig. 1 Illustration of lack of integration

It is commonly seen that the "handover of the baton" between two consecutive process steps becomes a challenge when factors such as i.e. lacking documentation or systemization, existence of functional silos or different cultures could be possible sources of difficulty [1, 2]. It is of importance that all value creating processes act together to achieve a well-managed value chain and that intra-organizational customer demand and supply capabilities are aligned and balanced [3]. To have a well-managed value chain could be synonymous with an integrated value chain that provides optimized value for the customer. This will positively affect an organization's efficiency-capabilities, seen as a quicker response to changes in the customer requirements [4]. The aim of integration is by Richey, Roath [5] presented as: *"to develop a process-oriented focus that discourages sub-optimization of specific functional areas in order to develop a more effective overall process solution"*. According to Chen, Daugherty [6], a process view is important to achieve integration and further defines process integration as *"the management of various sets of activities that aims at seamlessly linking relevant business processes within and across firms and eliminating duplicate or unnecessary parts of the processes for the purpose of building a better-functioning supply chain."*

The definition presented by Frankel and Mollenkopf [7] is the one that probably mostly fits the focus of this work. They use the construct Cross Functional Integration (CFI) and define it as: *"a process of interdepartmental interaction and collaboration in which multiple functions work together in a cooperative manner to arrive at mutually acceptable outcomes for their organization."* The study of integration of value chains is a huge and complex task [1, 7], and could be considered almost as challenging as working towards integration of the total value chain [4]. This is also illustrated by the title of the article of Frankel and Mollenkopf [7]; "Cross-Functional Integration Revisited: Exploring the Conceptual Elephant".

### 3. The study of three different value chains

Craft producers, mass producers and hospitals all meet a demand for continuous improvements. From a study of similarities and differences between production companies and Operating Rooms Seim [8] states, that among other factors the operational challenges for both organization types involve their need to improve their quality, reduce costs, maintain or improve the flexibility, secure focus on the customer and adaptability. With these similarities, it is possible to convert applicable operational management related knowledge, principles and techniques among these businesses. When work processes are considered as a value

chain, it is possible to study them independently of to what environment and business they belong [9].

#### 3.1. Craft Producers

Craft oriented enterprises are typically organized in a more informal way than larger companies, and are characterized by a typically flat organizational structure with few resources and frequently use of tacit knowledge [10]. They often have a fire-fighting mentality with an emphasis on ad hoc decision-making [11], and tend to have different needs and decision-making processes than larger firms [12]. Operational processes seem to be more acknowledged than managerial processes. Craft production can be defined as: "Skilled workers, using general purpose machines, making exactly the product that the customer pay for, one product at a time"[13].

#### 3.2. Mass Producers

There has been a shift in manufacturing paradigms towards supply chain integration [14]. Mass production is one of five production paradigms, which have in recent years been utilized. In mass production, a large amount of the same product is produced [15]. As production volume increases, prices can be reduced and more customers may be able to buy the products. Organizations use technology to support the coordination of the employees' efforts relative to the organizational tasks and objectives. The more effectively the social and the technological systems work together, the better the organization performs [16]. For the automobile industry, common quality systems with focus on quality issues, process flow and lean solutions, such as ISO/TS 16949:2002, have led to a more unified structure for the industry [17].

#### 3.3. Hospitals

Common challenges for hospitals around the world are continuously overloaded and increasing queues. Many hospitals experience an unpredictable patient flow, which results in inefficiency and disorganization [18]. With continuous delays, a poor use of resources, reduced patient care, employee dissatisfaction and increased patient mortality could be the result [19]. Worldwide Health care and hospitals have been organized in terms of health professions and specialist fields such as surgery, internal medicine etc. The patient's problems are analysed individually. This is an impediment to seeing the "big picture" around the patient's needs and could contribute to problems with achieving "process flow", which again may be a reason for delays and crowded waiting rooms [20-22].

### 4. Research design

Three organizations were studied to find what principles and methods that exist to give smooth and efficient interfaces between process steps and contribute to more adaptable value chains. The three organizations are quite different, with respect to their functions, responsibilities and societal roles.

The MP and the hospital are independent research initiatives made available for a PhD study with the aim of studying integration in value chains. The Norwegian Research

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