

Forty Sixth CIRP Conference on Manufacturing Systems 2013

## Lean and Proactive Liquidity Management for SMEs

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### Abstract

The liquidity requirements and the available liquidity are aspects that are influenced by order-independent and order-specific business processes; they represent dynamic parameters over time, making it difficult for many companies to plan and ensure liquidity. Apart from the complexity of material and financial flows, it is the time gap in the flows of the order fulfillment process which complicates the determination of future liquidity requirements.

This paper presents a causal model based on cause-and-effect networks, which takes an integrated look on the material and financial flows derived from the value creation process to identify future liquidity requirements.

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Selection and peer-review under responsibility of Professor Pedro Filipe do Carmo Cunha

*Keywords:* Liquidity, causal model, liquidity requirements, Cash-Conversion-Cycle, cause-and-effect networks

### 1. Introduction

The business environment in which small and medium-sized enterprises (SMEs) operate today is characterized by highly complex and dynamic markets [1-3]. On the one hand, globalization helps to open up new sales markets; on the other hand, corporate competition has intensified both at local and global level. Globalization has triggered the relocation of production and sales capacities [4]. As a result, national and industry-specific business fluctuations, increased exchange rate fluctuations and new legal provisions [5] need to be considered.

The ever shorter and volatile economic cycles also pose an enormous challenge to SMEs. The global economic crisis triggered by the banking crisis in 2008 was a most serious event, which particularly affected mid-sized companies [6-7].

The financial crisis has cast a shadow over the economic and the financial prospects of SMEs. Mid-sized business as a pillar of the German and European economy has been thrown into serious turmoil by the mentioned challenges. This is confirmed by a look at the insolvency statistics: More than 99% of the 30,200 companies that declared bankruptcy in 2011 were SMEs [8].

A company goes bankrupt if it cannot service its

debts. The reasons for liquidity shortages and the resulting bankruptcies are manifold. A frequent cause is the low level of equity capital of SMEs and the resulting lack of opportunities to bridge unexpected financial shortfalls [9-10]. The legal framework of Basel II and Basel III also contributes to tighten the lending practices of the banks [11]. Niederöcker [12] claims that medium-sized enterprises are particularly susceptible to bankruptcy. Apart from a higher risk in this business category, he believes the cause lies in the lack of financial knowledge and particularly in missing financial planning. Other authors also recognize the fact that SMEs lack financial planning [13]. Henneke [11] and Reichmann [14] see a particular need for active financial management with SMEs. Appropriate financial management and the resulting transparency will enable SMEs to provide for the necessary liquidity to sustain their businesses. Özbayrak and Akgün [15] state that financial feedback to the production process is getting essential.

In this paper, the term liquidity will be used to describe the permanent solvency of an economic entity. Solvency is the ability of a company to fully meet its payment obligations as they fall due [16]. Since it is getting more difficult to raise capital from outside lenders, liquidity or solvency can be achieved as well from own resources. The model provides an approach to control the material and financial flows, using equity

capital to meet the need for liquid funds. To achieve this, the causal model and its cause-and-effect networks are based on the value creation process, which is directly linked to the material flow. The determinants derived from the material flow are dynamically related to the cash flow over time. Accordingly, the required liquidity is to be linked to the relevant payables and receivables by cause-and-effect relationships. Below, two methods are put to the test to reveal the deficiencies in industry.

**2. State-of-the-art**

*2.1. Financial planning*

To provide transparency, one approach from the financial world is to draw up detailed financial plans for the companies [16]. Financial planning is used as a method to manage the financial resources of a company in the long run without risking a tight liquidity situation. Pernsteiner et. al [17] speak of a transparent financial development to ensure that companies are put on a solid footing. Financial planning is used for determining the lack or the surplus of liquidity and, if needed, the amount of cash to be provided. The broad term of financial planning is also referred to as ‘Produktionscontrolling’ [18] or liquidity/cash management [9], financial management and ‘Finanzcontrolling’ [19] in literature. At heart, the different terms share the goal of ensuring solvency and thus the liquidity of companies. Klepzig [9] sees a shift in the financial domain of medium-sized companies from being mainly reactive managers of consequences for business processes to increasingly active drivers of a financially oriented process design. This becomes particularly obvious in tough economic times, when ensuring the liquidity of operational business is given priority over improving the enterprise value.

Basically, financial planning is about comparing the cash inflows and outflows of one or several periods while considering the opening and the closing balance [19]. Starting point for financial planning and especially the financial plan are the performance-related action plans set out for a specific period. The sales plan, which indicates the items and the quantities to be produced as well as the envisaged customers, is used to define the relevant plans such as staffing plan, storage plan, and production schedule (see Figure 1). Then, the expected cash inflows and outflows are derived from the action plans. The result is accumulated in the financial plan. [19].

The time horizon of financial planning distinguishes between long-, medium- and short-term financial planning. The multi-level design allows for an early detection of possible difficulties. To better respond to these problems, long-term financial planning is designed to address the strategic aspects of practical business management [17].

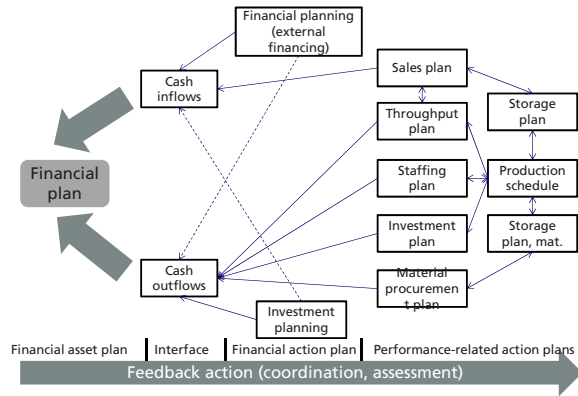


Figure 1: Financial planning [19]

As the level of detail over the long term is very low, the data available for planning is very crude. Only as the time frame decreases and planning refers to medium- and short-term financial planning, these data become more detailed. From one to the next financial planning level not only the horizon changes but also the tools and the parameters that are used. While fixed assets and capital assets are used as parameters at the long-term level, short-term financial planning resorts to cash inflows and outflows as well as cash assets [19].

Unlike long-term strategic planning, short-term planning focuses much more on operational business. In the presented paper, long- and medium-range financial planning is of minor importance due to the lack of detail. Short-term and daily financial planning, however, plays a key role and will be examined in further detail.

Short-term financial planning is concerned with planning throughout the year. Its planning horizon ranges from weeks up to six months. The focus on operational business at this level makes reliable data available and so increases the accuracy of planning. The planning horizon is divided into periods on a weekly or monthly basis. Parameters are cash inflows and outflows and financial assets such as cash and cash equivalents, receivables and payables.

A more detailed view provides day-to-day financial planning which ensures daily solvency, as cash inflows and outflows are monitored precisely to the day. Parameters are cash inflows and outflows, as well as cash and cash equivalents [19].

Financial planning focuses on the financial part. The link between financial flow and value creation process is not at all considered in this method.

*2.2. Working Capital Management*

Another approach that is frequently used in practice is working capital management. It is a part of the short-term financing of a firm [20]. The main objective of working capital management is to free up available liquidity by reducing the capital tied up in current assets.

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