DETERMINANTS OF SUPPLY CHAIN FINANCE ADOPTION AMONG MALAYSIAN MANUFACTURING COMPANIES: A PROPOSED CONCEPTUAL FRAMEWORK

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Abstract

Supply chain finance can be regarded as a new way to support the competitiveness and resilience of company’s financial performance since the financial crises in 2008. Despite many benefits that it can offer, the adoption rate was still very low especially in developing countries. In Malaysia, the lower adoption rate is witnessed by low penetration of supply chain finance among manufacturing industry players. Business must not only focus on conventional way of financing their projects but it is essentially finance the projects with less cost possible. However, this has not been met. This study aims at investigating and
determining factors that influence the attitude towards supply chain finance using Theory-of-Planned Behavior and Technology Acceptance Model. The research findings will be a platform to unravel the belief factors that influence the formation of attitude of the manufacturers towards supply chain finance and their intention to adopt supply chain finance in business.

Key words: Supply Chain Finance, Attitude, Manufacturing, Theory-of-Planned Behavior, Technology Acceptance Model.

1. Introduction

Financial crises worldwide have given such a huge impact to the sustainability of the companies. The sinking of big organizations such as Merrill Lynch, Royal Bank of Scotland, General Motors and Lehman Brothers have affected the industries business operation (Ashraf, 2012; Jakpar et al., 2017; Narayanan, 2014). In conjunction with business sustainability issue, banks also hardly to give out loan and taking a precautious action when approving new loans (Addae and Nyarkobaasi, 2013; Gaur et al., 2005). As a developing country, Malaysia does not exclude from being a victim of any of the financial crises in the world.

Since financial crises would affect Malaysian companies, Government of Malaysia had taken a pro-active action in ensuring the impact will be at the minimal level. This can be seen with the establishment of Danaharta, Danamodal and Corporate Debt Restructuring Committee (CDRC) in 1998. All these entities were coordinated in their work by a Steering Committee chaired by the Governor of Bank Negara Malaysia (BNM). The establishment of these three agencies were the Malaysian Government’s pre-emptive strategy in accelerating the restructuring and strengthening of the financial system. The initiatives taken by the Government, coupled with improvements in Malaysia’s economic climate, avoided the risk of a banking system crisis in Malaysia (Pengurusan Danaharta Nasional Berhad, 2006).

Therefore, the company’s managers are forced to recognize the importance of managing the company’s resources efficiently as well as effectively. Usually companies will be more focus on its long-term financial investments and assets rather than the short-term (Aktas, Croci, and Petmezas, 2015; Singania and Mehta, 2017). However, with to date financial market volatility and uncertain market dynamics, managers also need to take into consideration the efficient way of managing their short term financial investments and assets or in another word their working capital management. This is to ensure the sustainability of the business growth. Thus, adoption of supply chain finance would give impact to the company’s profitability and risk and hence their value. The inefficiency of the finance manager in handling the current assets and liabilities in appropriate way will led to business closure in the future.

A forum which was held in Singapore on Supply Chain Finance was to explore how supply chain finance is evolving in this dynamic part of the world. Asia’s fundamental importance to world trade and global corporations makes it the obvious choice for the Supply Chain Finance Community’s first event to be held outside of Europe taking place on Tuesday, 6th June 2017. At the event, Regional Director from the Asian Development Bank had mentioned their collaboration with Standard Chartered Bank, Malaysia in September 2016 with an amount of more than RM80 million to assist corporation in Malaysia in implementing supply chain finance. This collaboration has concurred that the implementation and acceptance of supply chain finance in
this part of the world was still lacking. Furthermore, the Professor of Supply Chain Finance in Windsheim University, Netherlands had also concurred that despite all benefit that SCF can offer such as enhance the company’s working capital management towards a better financial performance, the adoption in South East Asia is very low.

In addition, preliminary data gathering on a focus group of company has been conducted during a period from 5th June 2017 until 9th June 2017. A preliminary data had been gathered from these focus group from multi sectors in Bursa Malaysia. The summary of preliminary result as per Table 1.1 below revealed that, out of thirteen (13) companies, only one (1) company implement Supply Chain Finance since 2014.

Table 1.1 : Summary of Preliminary Analysis on Focus Group

<table>
<thead>
<tr>
<th>COMPANY’S NAME</th>
<th>HAVE YOU HEARD ABOUT SUPPLY CHAIN FINANCE (SCF)?</th>
<th>DO YOUR COMPANY IMPLEMENT SCF?</th>
<th>WHEN DO YOUR COMPANY IMPLEMENT SCF?</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tenaga Nasional Berhad</td>
<td>YES</td>
<td>NO</td>
<td>n/a</td>
</tr>
<tr>
<td>Petronas Berhad</td>
<td>NO</td>
<td>NO</td>
<td>n/a</td>
</tr>
<tr>
<td>FGV Holding Berhad</td>
<td>YES</td>
<td>NO</td>
<td>n/a</td>
</tr>
<tr>
<td>HeiTech Padu Bhd</td>
<td>NO</td>
<td>NO</td>
<td>n/a</td>
</tr>
<tr>
<td>KUB Berhad</td>
<td>NO</td>
<td>NO</td>
<td>n/a</td>
</tr>
<tr>
<td>Dagang Nexchange Berhad</td>
<td>NO</td>
<td>NO</td>
<td>n/a</td>
</tr>
<tr>
<td>Protasco Berhad</td>
<td>NO</td>
<td>NO</td>
<td>n/a</td>
</tr>
<tr>
<td>Serba Dinamik Berhad</td>
<td>NO</td>
<td>NO</td>
<td>n/a</td>
</tr>
<tr>
<td>Top Glove Corporation Bhd</td>
<td>YES</td>
<td>NO</td>
<td>n/a</td>
</tr>
<tr>
<td>SP Setia Berhad</td>
<td>NO</td>
<td>NO</td>
<td>n/a</td>
</tr>
<tr>
<td>Gamuda Berhad</td>
<td>NO</td>
<td>NO</td>
<td>n/a</td>
</tr>
<tr>
<td>Scomi Group Berhad</td>
<td>NO</td>
<td>NO</td>
<td>n/a</td>
</tr>
<tr>
<td>Nestle (M) Berhad</td>
<td>YES</td>
<td>YES</td>
<td>2014</td>
</tr>
</tbody>
</table>

Nonetheless, the lack of supporting empirical evidence on the current issue, it is crucial and timely to examine the manufacturers attitude towards supply chain finance in order to identify factors contribute to the problem. Very little empirical study has specifically examined the factors that influence attitude formation towards supply chain finance from the perspective of manufacturing industry players. Furthermore, although previous studies contribute useful insights in examining individual customers’ and business firms’ attitude towards supply chain finance, none of studies have adopted Theory of Planned Behavior (TPB) as well as Technology Acceptance Model (TAM) as the basis of investigation. Against this backdrop, it is imperative to understand the attitude of the manufacturers towards supply chain finance by focusing at the
There have been substantial literatures that examined the relation between attitude and adoption intention, but minimal studies focused on the antecedents of attitude or the belief factors as well as perceived usefulness and perceived ease of use that influence the attitude formation. Hence, this study aims at identifying the salient beliefs factors that influence manufacturer’s attitude towards supply chain finance, and other key constructs of TPB and TAM that influence intention to adopt supply chain finance in business.

The remaining of the paper is organized as follows, section 2 presents the literature review, section 3 discusses conceptualization of constructs and hypothesis, section 4 discusses TPB, section 5 discusses TAM, section 6 discusses attitude towards supply chain finance followed by a conclusion.

2. Literature Review

2.1 Supply Chain Finance Concept

Supply chain finance (SCF) is a set of solutions that optimizes cash flow by allowing buyers to extend supplier payment terms (Luca et al., 2016) and (Prime Revenue, 2016). Increasing the time it takes to pay a supplier improves several financial metrics (e.g. average payment period or APP, average collection period or ACP, inventory conversion period or ICP and cash conversion cycles or CCC), and most importantly, frees up cash that would otherwise be trapped inside the supply chain. A buyer can use increased cash flow to invest in operational, competitive and innovation initiatives that will drive additional growth. They can also return cash to shareholders in the form of dividends or stock repurchases. Simultaneously, supply chain finance offers suppliers a way to mitigate the effect of payment term extensions and to accelerate their own cash flow. Suppliers who implement SCF have the option to get paid early, typically as soon as an invoice has been approved by a buyer. The supplier can accelerate payment on some, all or none of their receivables, depending on their financial position and funding requirements. For those receivables that are paid early, the supplier will pay a small finance charge or discount. (Luca M Gelsomino, Mangiaracina, Perego, and Tumino, 2016).

In addition, all of this occurs without negatively impacting either companies’ balance sheet. Accounting treatment for supply chain finance, when done properly, does not count as additional debt for a buyer or supplier (Prime Revenue, 2016; PricewaterhouseCoopers Co., 2014). Furthermore, since the buyer is the obligated party, financing is offered to the supplier at rates that are typically more favorable because they are based on the buyer’s credit history and rating. For many suppliers, this access to a lower cost of funding is exceptionally important. Supply chain finance thus creates a win-win situation for both buyers and their suppliers (Prime Revenue, 2016; PricewaterhouseCoopers Co., 2014). The buyer optimizes working capital because it has more time to pay suppliers. Meanwhile, suppliers can generate additional operating cash flow by getting paid early without affecting their balance sheets (Steeman et al., 2015). In a nutshell, supply chain finance program can be further understood in Figure 2.1 below.
1. Buyer buy goods or services by giving purchase order to supplier;
2. Supplier deliver the goods or services to the buyer with standard credit term eg. 30 days;
3. Buyer will approve invoice to be paid through SCF platform;
4. Supplier request for discount facility to the financial institution;
5. The financial institution will immediately pay to supplier upon receive invoice approval from buyer; and
6. Buyer will pay to the financial institution with an agreed extended credit term eg. 45 days.
Nevertheless, it’s not just important to understand what supply chain finance is but it is also important to understand what it is not. Supply chain finance is not a loan but rather is an extension of the buyer’s accounts payable and is not considered financial debt. For the supplier, it represents a non-recourse, true sale of receivables. There is no lending on either side of the buyer and supplier equation, which means there is no impact to balance sheets (Prime Revenue, 2016).

It is not dynamic discounting or an early payment program. Early payment programs, such as dynamic discounting, are buyer-initiated programs where buyers offer suppliers earlier payments in return for discounts on their invoices. Unlike supply chain finance, buyers are seeking to lower their cost of goods, not to improve their cash flow. Dynamic discounting and early payment programs often turn out to be expensive for both suppliers (who are getting paid less than agreed upon) and buyers who tie up their own cash to fund the programs.

Supply chain finance also is not factoring (Prime Revenue, 2016). Factoring enables a supplier to sell its invoices to a factoring agent (in most cases, a financial institution) in return for earlier, but partial, payment. Suppliers initiate the arrangement without the buyer’s involvement. Thus, factoring is typically much more expensive than buyer-initiated supply chain finance. Finally, most factoring programs are recourse loans, meaning if a supplier has received payment against an invoice that the buyer subsequently does not pay, the lender has recourse to claw back the funds.

Among identified reason of low acceptance of supply chain finance in this region because SCF are most prominently developed in the United States, followed by Europe, particularly in the United Kingdom and Germany (PricewaterhouseCoopers Co., 2014). Asia is gaining momentum, especially in India and China and is expected to become the fastest growing market in supply chain finance in the coming years (Liz Salecka, 2009; PricewaterhouseCoopers Co., 2014). The industries in which supply chain finance programs are most prevalent are retail, manufacturing, consumer products, automotive, agriculture, chemicals, and pharmaceuticals (Liz Salecka, 2009; PricewaterhouseCoopers Co., 2014). There are three common attributes of companies in those industries that make them good candidates for supply chain finance. Firstly, they are all global companies. These companies are usually a multinational company that traded worldwide. Their presence in quite a number of countries in the world to ensure their product and services can reach their customers. Secondly, all of them have extensive supply chains. These multinational company will of course would have an extensive supply chains as they involved fast and rapid change of demand and supply worldwide. The volume of transaction involved would be very huge. Finally, all of them have significant lead time from the time inventory gets ordered to the time a purchase order gets approved. These companies need to act fast to replenish their raw material before it can become a finished goods to be exported to their other multinational company customer (Liz Salecka, 2009; PricewaterhouseCoopers Co., 2014).
3. Conceptualization of constructs and hypothesis

The proposed conceptual framework (Figure 3.1) is adapted from the Theory of Planned Behavior by Ajzen (1991) and Theory of Acceptance Model by Davis (1989). These models explain that the adoption intention in supply chain finance is resulted from the attitude towards supply chain finance, subjective norms, perceived behavioral control as well as perceived usefulness and perceived ease of use. It is hypothesized that salient belief factors as well as perceived usefulness and perceived ease of use are related to attitude towards supply chain finance and consequently influence adoption intention. Since this study is emphasizing on attitude towards supply chain finance, hence it is important to understand what are the belief factors that influence the formation of attitude before an attitude being formed. Thus, the proposed conceptual framework integrates salient beliefs factors i.e. awareness and knowledge, cost benefits, business support and reputation in TPB model as well as perceived usefulness and perceived ease of use in TAM, as a new approach in assessing consumers' attitude within the context of supply chain finance.

![Figure 3.1: The Proposed Conceptual Framework](image-url)

- **Salient beliefs factors:**
  - Awareness and Knowledge
  - Cost Benefits
  - Business Support
  - Reputation
  - Perceived Usefulness
  - Perceived Ease of Use

- **Hypotheses:**
  - H1: Awareness and Knowledge influence Attitude towards Supply Chain Finance (SCF)
  - H2: Cost Benefits influence Attitude towards SCF
  - H3: Business Support influence Attitude towards SCF
  - H4: Reputation influence Attitude towards SCF
  - H5: Perceived Usefulness influence Intention to adopt SCF
  - H6: Perceived Ease of Use influence Intention to adopt SCF
  - H7: Attitude towards SCF influence Intention to adopt SCF
  - H8: Subjective Norms influence Perceived Behavioral Control
  - H9: Perceived Behavioral Control influence Intention to adopt SCF
4 Theory of Planned Behaviour

Theory of Planned Behaviour (TPB) was developed by Ajzen (1991) to study the linkages between beliefs, attitude, subjective norms, perceived behavioural control, intention and behavior. TPB model is one of the most influential and popular framework in studies concerning prediction of behavior from attitude variables. Although TPB is widely used in predicting an individual’s behavioural intention, TPB is also appropriate in small business or organizational context. Business owners are usually the primary decision maker, whereby their perception is a significant determinant in adoption intention. Therefore, TPB can be directly used to postulate firm-level behavioral intention (Jin et al, 2012). Since this study focuses on attitude of Manufacturers towards supply chain finance, TPB is still relevant to be applied as the conceptual framework. TPB proposes three key determinants in influencing behavioral intention; attitude towards the behavior, subjective norms and perceived behavior control.

4.1 Salient belief factors

Salient beliefs are identified by examining an individual’s or groups’ belief hierarchy that is the most frequently elicited beliefs (Fishbein and Ajzen, 1975). In this study, four salient belief factors i.e. awareness and knowledge, cost benefits, reputation and business support were hypothesized to influence attitude towards supply chain finance.

i. Awareness and knowledge

Awareness is having or showing realization, perception or knowledge of a situation or fact. While, knowledge is defined as the fact or condition of knowing something with familiarity gained through experience or education (Writz and Matilla, 2003). In this study, degree of consumer awareness and knowledge about supply chain finance in terms of existence, differences with conventional financing will influence attitude towards supply chain finance. This study hypothesizes:

H1: There is a relationship between awareness and knowledge with attitude.

ii. Cost benefits

Cost benefits are measured by cost of products and rate-of-return, availability of credit with favourable terms, lower service charge, lower interest charge on loan, high interest payment on deposits and lower monthly payment (Al-Ajmi et al. 2009). Gait and Worthington (2008) posit that business firms will consider cost benefits factor in bank selection regardless Islamic bank or conventional bank. Hamid and Masood (2011) revealed that lower monthly payment and service charges influence customers’ selection for Islamic home financing. The perceived cost benefits may be positively related to attitude towards Islamic methods of finance. Thus, the study hypothesizes:

H2: There is a relationship between cost benefits and attitude

iii. Business Support

Business support can be divided into two sections. 1. Financial support such as property loan, working capital and grant. 2. Non-financial support such as courses, advisory, management, distribution, research and development (Yusoff and Yacob, 2010). The variables for business support were measured in terms of the extent of Islamic financial institutions support business management, encourage business innovation
and expansion, improve business efficiency (Gait and Worthington, 2009). This study hypothesizes that business support of financial institutions and agencies that provide supply chain finance will influence business firms’ attitude towards supply chain finance.

**H3**: There is a relationship between business support and attitude.

### iv. Reputation

Reputation is based on perceptions of the reliability, credibility, social responsibility and trustworthiness of the organizations (Fombrun, 1996). Previous studies showed “social welfare responsibility” factor appeared significant in consumers bank’s selection (Al-Ajmi et al, 2009; Dusuki and Abdullah, 2007) this includes respects for the rights of employees, involved in community (e.g. giving donations or sponsorship) and environmental practice and impact. Islamic banks should uphold social objectives and promote Islamic values to the customer (Dusuki, 2008). In this study, reputation refers to social responsibility and social objectives of financial institutions or organizations that provide supply chain finance. Thus, this study hypothesizes:

**H4**: There is a relationship between reputation and attitude

### 4.2 Subjective norms

Subjective norms refer to the perceived social pressures which influence an individual’s behavioral intention (Ajzen, 1991). In the context of Islamic finance, previous studies show that subjective norms have a direct impact to the intention to use Islamic personal financing (Amin et al., 2011). However, this study will look into the context of supply chain finance. Thus, the study hypothesizes:

**H8**: There is a positive relationship between subjective norm and intention to adopt supply chain finance in business.

### 4.3 Perceived Behavioural Control

Perceived behavioral control refers to the perception of ease or difficulty to perform the behavior of interest (Ajzen, 1991). The perceived behavioral control in this study suggests that manufacturers are likely to adopt supply chain finance in business if they feel they have control over the behavior, or are prevented to adopt supply chain finance in which they have no control.

**H9**: There is a positive relationship between perceived behavioral control and intention to adopt supply chain finance in business.

### 5 Technology Acceptance Model

The Technology Acceptance Model (TAM) pioneered by Davis (1989) advances the Theory of Reasoned Action (TRA) by postulating that perceived usefulness (PU) and perceived ease of use (PEU) are key determinants that inevitably lead to the actual usage of a technology or system. Perceived usefulness is defined as “the degree to which an individual believes that using a particular system would enhance his or her productivity” while perceived ease of use is defined as “the degree an individual believes that using a particular system would be free of effort” (Davis, 1989). Between the two, perceived ease of use has a direct effect on both perceived usefulness and technology usage (Davis, 1989).
5.1 Perceived Usefulness

Perceived usefulness refers to the degree to which a person believes that using a system would enhance his or her job performance, by Bandura's Self efficacy theory (1982). The perceived usefulness in this study suggests that manufacturer will find supply chain finance very useful to run their daily task. Thus, the study hypothesizes:

\[ H5 : \text{There is a positive relationship between perceived behavioral control and intention to adopt supply chain finance in business.} \]

5.2 Perceived Ease of Use

Perceived Ease of Use refers to the degree to which a person believes that using a particular system would be free of effort by Rogers and Shoemaker (1971). The perceived ease of use in this study suggests that the manufacturer will find it easier to use supply chain finance to assist their daily works. Thus, the study hypothesizes:

\[ H6 : \text{There is a positive relationship between perceived behavioral control and intention to adopt supply chain finance in business.} \]

6 Attitude towards supply chain finance

Attitude towards the behavior refers to the individual’s favorable or unfavorable evaluations of the behavior (Ajzen and Fishbein, 1980). Amin et al. (2011) found that attitude is positively related with the intention to use Islamic personal financing. This study measures attitude towards supply chain finance from 5 determinants of attitude i.e. awareness and knowledge, cost benefits, business support and reputation which may influence manufacturers’ behavioral intention to adopt supply chain finance in business. Thus, the study hypothesizes:

\[ H7 : \text{There is a positive relationship between attitude and intention to adopt supply chain finance in business.} \]

7 Conclusion

The significance of the study lies on its attempt to add new insights by bridging the two main theories, that is the TPB and TAM and their attitude towards supply chain finance. This study integrates the salient beliefs factors in the TPB as well as perceived usefulness and perceived ease of use as a systematic approach in examining attitude and predicting adoption intention towards supply chain finance in business. The research findings could be a platform to understand factors that inhibit adoption of supply chain finance. Thus, to assist relevant government agencies in policies and strategies development for the growth of manufacturing industries, which are essential for the job and wealth creation of the nation.

References


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