



# Islamic Finance Involvement in Supply Chain of Financed Assets

## A Library Research and Systematic Literature Review

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**Abstract:** In accordance with shari'ah principles, Islamic banks have to be involved in supply chains of financed assets. However, Islamic banks are simultaneously part of the western banking system that is reluctant to be involved in the real economy. Due to these dual poorly understood boundaries, scholarly disputes persist on the similarities between Islamic and conventional banking. This study adopts the library research and systematic literature review method. After discussing "Islamic finance involvement in the supply chain of the financed asset" by library research method, the systematic literature review (SLR) approach, to search and review Islamic finance and supply chain integrated studies, was adopted, and the Web of Science and Scopus databases initially searched. An extended SLR was then used to search other databases for the review period from 2010 until 3<sup>rd</sup> February 2020. The library research method discovered the involvement of Islamic finance in the supply chain of the financed asset. The SLR also found similar involvement in several other studies. This study showed that Islamic finance can support the supply chain and solve real business issues, including support beyond traditional financing. It maintains, within a different perspective, that the integration between Islamic finance and supply chain is able to resolve real business problems. And as such, the differentiation between Islamic and conventional banking will be self-explanatory. This study potentially contributes, in a novel perspective, to a greater understanding of the working of current Islamic banking and finance in the economy.

**Keywords:** Islamic finance involvement, supply chain of financed asset, systematic literature review, conventional banking vs Islamic banking, a novel perspective.

**JEL Classification:** G21, Z12, P49, O16

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## Introduction

Islamic banking constitutes 71.7% of the Islamic financial services industry worldwide (Islamic Financial Services Board, 2019). It is fast-growing, especially following the global financial crisis in 2008 and has since attracted many countries, including non-Muslim states (Wahid & Furqani, 2013). Islamic banking mainly differs from conventional banking in being mostly asset-based. In Pakistan, for example, it comprises more than 82% of financing and related assets (net) in Islamic banks (as mentioned in the last row of Table 1). The financing modes comprise Murabahah, Ijarah, Musharakah, Diminishing Musharakah, Salam, Istisnaa and others such as Musawama. According to the shariah principles underlying these modes, Islamic banks are required to involve in asset transactions to execute financing for their customers. For example, in Murabahah financing, the bank cannot sell its goods to the customer unless it becomes the owner of the goods (Prabowo & Jamal, 2017). The Islamic bank involvement induces ownership to include risk-taking (Razak & Saupi, 2017) at the specific point of transaction. Islamic banks should therefore have close linkage with ownership, information, physical and financial flows of financed assets in the supply chain.

Table 1 presents the Islamic modes of finances used for financing transactions in the Islamic banking industry. The table compiles data from the quarterly Islamic Banking Bulletins issued by the Islamic Banking Department in the State Bank of Pakistan. According to the five quarterly reports, from June 2018 to June 2019, the Murabahah mode constitutes 13.5% on average on financing, Ijarah 6.3%, Musharakah 20.2%, Diminishing Musharakah 33.4%, Salam 2.5%, Istisnaa 8.3% and the remaining financing constitutes 15.8%. Murabahah is a sale transaction where the seller discloses his profit and acquisition cost (Zafar & Sulaiman, 2020). Ijarah is a rental contract primarily used for longer-term financings, such as equipment finance, while Musharakah is a partnership contract where profit and loss are shared (Khan et al., 2019). Diminishing Musharakah is a hybrid mode of finance with the following steps. Firstly, Sharikat al-Milk which is joint ownership between client and bank in the asset. The second step is the Ijarah contract, where the bank rents out its share in the asset to the client. And in the final step, the bank gradually sells its Musharakah units to the client. Istisnaa is an Islamic Manufacturing contract (Aliero & Achida, 2016; Gundogdu, 2010), whereas Salam is a deferred delivery sale (Razak & Saupi, 2017). The other category shown in Table 1 includes Musawamah. It is a simple sale contract used as a finance mode in the Islamic banking industry (Khan et al., 2019).

**Table 1**

*Financing modes' percentages in the Islamic Banking Industry in Pakistan*

Mode	Average	Jun-19	Mar-19	Dec-18	Sep-18	Jun-18
Murabahah	13.5	13.5	14.1	13.6	12.8	13.4
Ijarah	6.3	6.1	6.2	6.2	6.6	6.6
Musharakah	20.2	20	19.7	19.9	21.5	20
Diminishing Musharakah	33.4	33.6	32.9	33.3	33.4	33.7
Salam	2.5	2.6	2.4	2.4	2.3	2.8
Istisnaa	8.3	8.9	9.3	9.1	7.6	6.4
Others	15.8	15.3	15.3	15.5	15.8	17.1
Total	100	100	100	100	100	100
Total minus others	84.2	84.7	84.6	84.5	84.2	82.9

Source: Islamic Banking Bulletin (State Bank of Pakistan, 2018, 2019).

Supply Chain Management is the systematic coordination of traditional business functions within the organisation and with related entities, such as suppliers and customers, to improve organisational and the firms' overall long-term performance (Hugos, 2018; Mentzer et al., 2001). In most studies, physical, informational and financial supply chain flows were explicitly mentioned and discussed (e.g. Carter et al., 2015; Silvestro & Lustrato, 2014). Along with these three, however, there is also the ownership supply chain, thus making up to four types of supply chain flows (Tamim & Rub Nawaz, 2017). Islamic banking mainly deals with asset transactions, and it should thus be considered as a stakeholder of supply chain flows, especially for ownership, information and finance (Shaban, Duygun, & Fry, 2016). However, minimal studies discussed the involvement of Islamic banking in the supply chains of financed assets.

There are two objectives in this study. The first is to discuss Islamic finance involvement in the supply chain of financed assets, and this will be realized through library research or non-systematic literature review. The second objective is to systematically search and review the literature for Islamic finance involvement in supply chains. Various themes will be identified from the systematic literature search. The research questions are also similar to the objectives of the study. The first research question is "How is Islamic finance involved in the financed asset supply chain, and in what way this involvement is different from its conventional counterpart?" The second research question is "What studies are available (in selected

leading academic databases) that focus on Islamic Finance in relation to Supply chain (IF-SC), and what are the themes provided in these IF-SC studies?”

Since conventional finance has long been dominant, the public tend to erroneously assumed that Islamic finance is part of it. However, it is also pertinent to know that “Islamic finance and supply chains are two different areas of knowledge and as such how are these connected in terms of financed asset’s supply chain”? On this note, the proceeding section will describe the supply chain in Islamic finance and differentiate it from its conventional counterpart.

## Literature Review

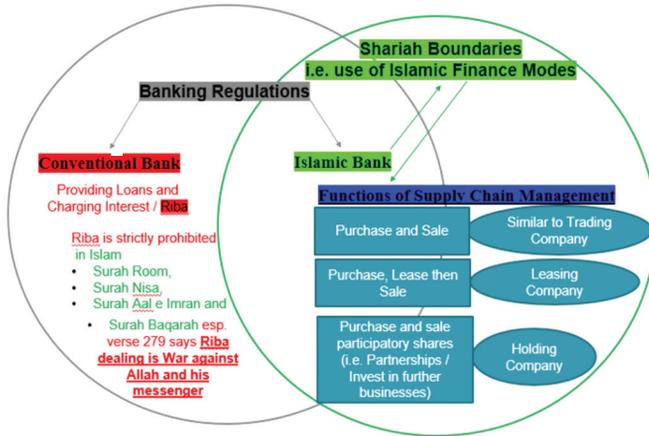
This section is based on literature collected and reviewed non-systematically. It can be termed the library research method. Since the Methodology and Results sections in this article are mainly based on a systematic literature review approach, which also focuses on literature review, this section will focus on Islamic finance involvement in the financed asset supply chain.

## Islamic Finance Involvement in Supply Chain

This section describes the Islamic finance (IF) involvement in the supply chain, which differentiates it from the conventional equivalent. Islamic finance and conventional finance are similar in that they both have to comply with financial regulators’ boundaries since both are contemporarily considered as financial institutions. However, IF institutions, such as Islamic banks, are not the same as their conventional counterparts because they have to follow shari’ah boundaries as well as banking boundaries. According to shari’ah boundaries, Islamic banks are mainly involved in purchasing and selling financed assets, which makes them similar to trading companies rather than solely acting as contemporary financial institutions. IF involvement in the financed asset’s supply chain differentiates it from its conventional counterpart, as illustrated in Figure 1.

**Figure 1**

*Islamic Finance Involvement in Supply Chain as the main difference from Conventional Counterpart*



Source: Developed by the researcher as aided by various literature sources.

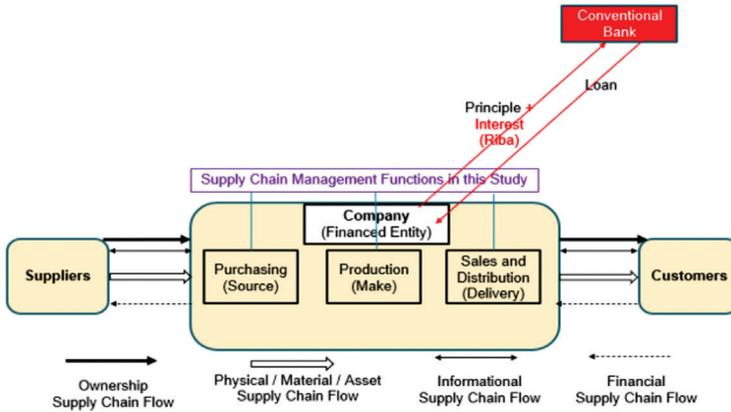
Purchase, sales and such other activities within shari’ah boundaries are called the Islamic finance modes. According to shari’ah principles underlying these Modes (Structures), Islamic Financers like banks must involve in executing financing to Supply Chain Flows of the financed assets. For example, in Murabahah financing bank cannot sell goods to the customer until it becomes the goods’ owner (Prabowo & Jamal, 2017). The involvement mainly includes ownership risk-taking (Razak & Saupi, 2017) on a specific point of the transaction, so Islamic banks should closely be linked to the movement of assets, ownership, information, and financial flows of supply chains of the financed assets.

### Example of the Difference between Islamic Finance and Conventional Finance Related to Supply Chains of Financed Assets

Figure 2 and Figure 3 provide an example that can differentiate Islamic and conventional finance from the perspective of supply chain involvement.

**Figure 2**

*Supply Chain Functions, Flows and Conventional Finance Scenario*



Source: Developed by the researcher with Integration of Quang et al. (2016); Silvestro and Lustrato (2014); Tamim and Rub Nawaz (2017); and Moh'd et al. (2017).

Figure 2 illustrates the Supply Chain management functions, namely Purchasing, Production and Sales and Distribution, as sourced from Quang et al. (2016). Arrows in Figure 1.2 indicate the supply chain flows. In most studies, the Physical, Informational and Financial supply chain flows were explicitly mentioned and discussed (e.g., Carter et al., 2015; Silvestro & Lustrato, 2014). In addition to these supply chain flows, Tamim and Rub Nawaz (2017) also mentioned the Ownership Supply Chain Flow (OSCF).

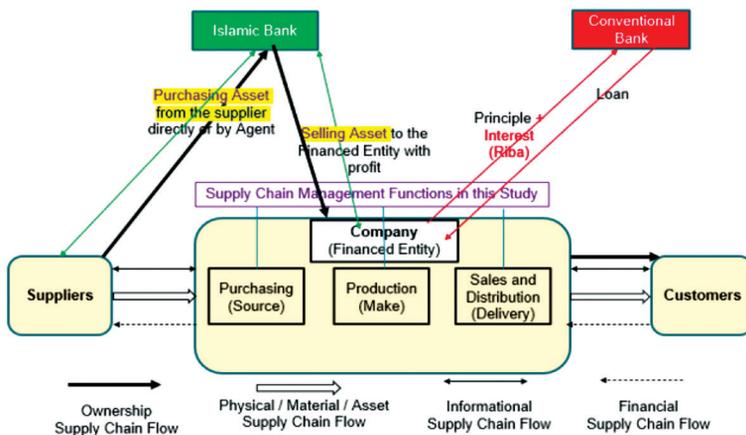
As shown in the conventional finance scenarios in Figure 2, the company (financed entity) applies to the conventional financial institution to source a loan and later returns the loan's principal amount with interest. In this scenario, the conventional financial institution does not involve supply chain functions and flows. It, however, provides the loan with Interest or Riba, which is strictly prohibited under shari'ah law. To avoid Riba-based transactions, Islamic banks must follow shari'ah guidelines involving real economic activities such as Purchasing and Selling, as shown in Figure 3.

With the same situation as in Figure 2, the company may approach an Islamic bank. In that scenario, the Islamic bank will enquire to the need of the company and accordingly provides the solution within shari'ah guidelines. It can be in the form of a Murabahah financing with which the Islamic bank purchases financed assets from the supplier, directly or through an agent (who is mostly the same

client who deals as an agent). After purchasing the financed asset and entering the Ownership supply chain flow of the asset, the Islamic bank sells the asset to the company with profit disclosure. This financing structure is called *Murabahah* financing. According to the State Bank of Pakistan (2020), *Murabaha* is one of the few Islamic finance modes offered in the Islamic banking industry in Pakistan.

The Islamic bank exercises its purchasing and selling supply chain management functions in the Islamic transaction scenario, making it different from its conventional counterpart. Consequently, Islamic bank enters into the ownership supply chain flow of the financed asset because there is a shari’ah principle which states that getting into risk, as the owner of supply chain flow, is compulsory in profit earning. Islamic banks are supposed to purchase financed assets directly from the suppliers. In that case, its involvement in information supply chain flow will be explicit. But most of the time, Islamic banks nominate the client as an agent due to operational reasons. Hence, in that situation, the Islamic banks are involved in information, physical and financial supply chain flows through agents. Figure 3 summarizes both scenarios in detail.

**Figure 3**  
*Islamic Finance Scenario and Supply Chain Functions, Flows*



Source: Developed by the researcher with information from literature sources.

## Why Systematic Review?

Since the public is more familiar with the conventional system-based supply chains, there is a tendency to misunderstand Islamic finance as a context rather than a concept. This erroneous perception is common, especially among those

who are unaware of the 1400 years history of Islamic finance and literature. The current study presents a new perspective in contemporary research, using the SLR to search and review the literature that focuses on the integration of information between Islamic finance and supply chain (IF-SC).

## The Methodology of Systematic Literature Review

After the above discussion on Islamic finance involvement in the supply chain in non-systematic literature, which is also called the library research method, this study additionally uses the SLR approach. Systematic literature review first appeared in the academic field of medicine. Following this, it was adopted in other areas, including management, software engineering, and international development (Durach, Kembro & Wieland, 2017). It is a precise and systematic method of identifying, selecting, and appraising the relevant answer to a formulated research question (Shaffril, Krauss & Samsuddin, 2018). The SLR has transparency and replicability characteristics (Gligor, Bozkurt, Russo & Omar, 2019) which differentiate it from the traditional literature review. According to Shaffril et al. (2018), SLR should comprise the following steps:

1. Identification (of keywords, search string, terms)
2. Screening (refining by software (s))
3. Eligibility (Analysis by the researcher (s))
4. Inclusion (Studies selected for further analysis and synthesis)

This study closely follows the prescribed steps in its SLR, which comprise two phases. The first phase was focused on the Web of Sciences and Scopus, which are the databases for leading academic journals (Shaffril et al., 2018). In this phase, thirty articles were initially identified, but only three were found relevant for the purpose of the study. Due to the paucity of information, the search was thus extended to cover other academic databases. Accordingly, more articles have been included in the second phase of the study.

## Web of Sciences and Scopus Systematic Search

The researcher conducted the Systematic Literature Review to search and review the available literature from two leading academic databases, namely the Web of Science and Scopus, to identify information gaps. The search strings used were [(“Islamic Finance\*” OR “Islamic Bank\*”) AND (“Supply Chain” OR “Supply Chain

Management” OR “Supply Chain Flow\*” OR “Value Chain” OR logistic\*]), TITLE-ABS-KEY in Scopus and TS= (topic) in Web of science. Accordingly, 18 documents were found in Web of Science and 29 in Scopus. The search was conducted on 25<sup>th</sup> December 2019 with keywords and string developed step by step. With Microsoft Excel 365, 14 title duplications were found and removed, leaving 33 documents for further processing. The authors further excluded one paper, a 2005 publication, for being outside the search time scope (since 2010). A subsequent manual title review and analysis identified two other duplications. The spreadsheet duplication search could not detect these since the authors and the year were the same. The duplicates were subsequently manually removed.

The remaining thirty documents were arranged and reviewed. Of these, 24 studies used quantitative methods, and six were non-quantitative. On analysis, the 30 studies were found to have two further different categories in terms of usage of word logistic and supply chain:

1. Islamic finance/banking and logistic regression studies relevant but not pertinent to the supply chain (the logistic keyword used as statistical analysis).
2. Islamic finance/banking and supply chain studies that are relevant (including relevant logistic keywords in similar meanings).

Twenty-two studies used the keywords Islamic finance or Islamic banking, but not for supply chain or value chain or logistics, which are similar in meaning to supply chain field. In these studies, the word logistic was used as the statistical analysis method and the Islamic banking or Islamic finance since the current SLR focus was on IF-SC relevant studies. As such, the remaining eight studies were selected for further analysis.

The eight studies were divided into two categories. The first, comprised studies that used the words Supply chain or logistic, similar in meaning to supply chain and the terms Islamic finance or Islamic banking. However, their main focus was not on the supply chain field. For example, the terms supply chain or logistic were used for the Halal industry and not focused on the supply chain. In this first category, researchers identified and analysed five studies, as shown in Table 2.

**Table 2**

*Studies with Supply Chain and Islamic Finance word but not focused on Supply Chain*

Author & Year	Main Focus
Muhammed et al. (2014)	In this study, the main focus is on the relationship between “Islamic Finance” and the Halal industry. The study also includes logistic services. The study perspective is that “Islamic Finance” and “Halal Industries” should mutually support each other regarding funds placements. This study is out of the SLR scope because it does not focus on “Islamic Finance” and “Supply Chain” management transaction structures.
Rahman et al. (2017)	Overall, the article focuses on Halal industry research. The terms “Supply Chain” and “Logistics” were used for halal services of the Halal foods and cosmetics industries.
Darus et al. (2014)	The study focused on the Responsibility (SR) reporting of the Islamic Banks. The words “Supply Chain” has been used as part of the Product theme as “Product, services, and fair dealing with supply chain”.
Husien et al. (2019)	This study focused on the bank’s supply chain rather than the supply chain of the financed enterprise.
Ahmed (2019)	The Islamic Finance Model and Socially Responsible Investment (SRI) were the main focus, although the words “Supply Chain” were used in the title, abstract and keywords.

The second category consists of studies that used the words Supply Chain or Logistic, similar in meaning to supply chain, and the words Islamic Finance or Islamic Banking. Their main focus was, however, not on the Supply Chain field. In this category, researchers found three studies as analysed in Table 3.

**Table 3**

*Studies with a focus on Supply Chain and Islamic Finance word*

Author & Year	Analysis
Moh’d et al. (2017)	In this study, existing models were reviewed and examined, and the Waqf-Muzara’ah supply chain model was proposed.
Shamsuddoha et al. (2015)	This study proposed a supply chain model of an industry with a consensus of Islamic Perspectives.
Gundogdu (2010)	This study proposed an Islamic Finance structure for the agriculture sector.

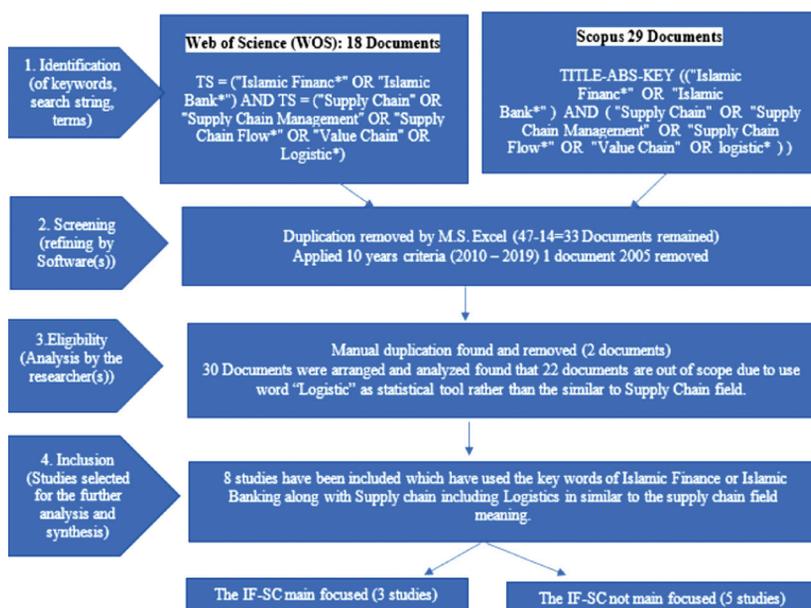
## Gaps by the systematic search in WoS and Scopus

In all three studies of the second category, the authors focused on the industry or sector-based problems and endeavoured to provide the solution in light of some specific Islamic Finance modes and industry supply chain. However, none focused on studying the relationship between the overall supply chain management and Islamic Finance modes.

Figure 4 graphically summarises the first phase of the SLR conducted based on two leading academic databases, i.e. Web of Science and Scopus.

**Figure 4**

*Graphical summary of WoS and Scopus systematic search*



## Searching in Further Academic Databases

As discussed above, the review found insufficient studies reported in the Web of Science and Scopus related to the SLR topic. The search was accordingly extended to other academic databases to remove the word “Logistics” in the following second phase, since in both WoS and Scopus the term was mostly used in statistical analysis rather than in the context of supply chains. The second phase provided some more articles for the study from the publisher website, Emerald database. It was scanned with the final search string (“Islamic Financ\*” OR “Islamic Bank\*”) AND

(title: “Supply Chain”) OR (abstract: “Supply Chain”) - (title: “Halal”) - (abstract: “Halal”) on 2<sup>nd</sup> Feb. 2020. A total of eight articles were identified, but three were out of the IF-SC Study focus. A further three articles were the same as those found in the Scopus and Web of Science systematic search. As such only two relevant articles were identified from the Emerald database in the second phase.

Similarly, from the Mycite academic database, one study was relevant out of two studies identified. The scanning was enhanced for the partial Systematic Searching, with two more relevant articles found under Google Scholar. The search was continued for over one year, beginning March 2019, with other databases in both the systematic and non-systematic approach, but no relevant studies were discovered. For example, the Sage journals academic database was searched on 3<sup>rd</sup> February 2020 with the search string “[All “Islamic financ\*”) OR (All “Islamic bank\*”) AND (All “supply chain”)]”. The two documents found were, however, not relevant.

Table 4 describes the vital components found in the finally included studies at the end of phases one and two of the systematic literature review of studies on the integration between Islamic Finance and Supply Chain. From these studies, different models and frameworks were found, and these will be discussed in a later section. Methodologically, three out of eight studies used the case study method, and one of them used the expert survey approach. The remaining studies were mainly based on the literature analysis. Contextually, four studies were conducted in Asian countries and regions. Three studies were conducted in the context of Africa. Most of the studies were undertaken in agriculture and similar sectors such as the poultry industry.

**Table 4**

*Table of IF- SC Combined Studies*

<b>Author and Year</b>	<b>Initially database</b>	<b>Concepts / Model / Framework and used theory (if any)</b>	<b>Methodology / Approach</b>	<b>Context</b>
Moh'd et al. (2017)		Waqf-Muzara'ah Supply Chain Model	Review of models and develop	Zanzibar - Agricultural sector
Shamsud-doha et al. (2015)	Web of Science & Scopus databases on 25 <sup>th</sup> Dec. 2019 and also June 2021	Poultry business (Supply Chain) with Islamic Finance, Used theories: "Sustainability theory" and "Islamic Viewpoint."	Case Study	Bangladesh -the poultry industry
Gundogdu (2010)		Salam for Cotton Supply Chain Finance	Case Study	West Africa
Gundogdu (2020)	Emerald (2nd February 2020)	Islamic monetary system, Electronic Warehouse Receipt	Critical realism approach	
Olado-kun et al. (2015)		"Muzara'ah supply chain model."	Expert survey approach	Nigeria - Agricultural sector
Wildana and Alhab-shia (2018)	MyCite (Feb 2020)	"Waqf Framework for Food Security and Price Stabilization Policy"	Analysing the relevant literature	Indonesia – Rice policies
Ningrat and Nur-zaman (2019)	G. Scholar	"Islamic Agriculture's Value Chain Finance Products with FinTech Enabled Platform"	Case Study method	Indonesia – Agriculture
Hussain and Musa (2016)	G. Scholar	"Islamic Value Chain Financing"	Critical analytical approach – Conceptual Paper	Kashmir - Small farmers

Source: IF-SC Interrelated Studies.

## **Results from SLR: Themes and Models Combining Islamic Finance (IF) and Supply Chain (SC) concepts**

Although the Islamic Finance and Supply Chain integration (IF-SC) is less discussed in the literature as confirmed by the systematic literature search above, a few studies have supported the IF-SC relationship and will be discussed in the proceeding three subsections of the literature review. Table 4 presents the list of studies in the literature which discussed the IF-SC as a whole. The following three subsections were mainly derived from these studies.

### **IF-SC Relationship as Solution of Real Business Issues**

Islamic Finance and Supply Chain integration are able to solve real business problems. Oladokun et al. (2015) discovered the solution to Nigeria's agriculture sector problems through the Muzara'h Supply Chain Model. In this model, the Financial Institutions provide the finances, Supply Chain and Support of Expertise to the Farmers. The Supply Chain support includes chemical, seed, storage, machinery, and transportation. On completion, the model proposes profit and loss sharing between farmers and the financial institutions (Oladokun et al., 2015). Similarly, Moh'd et al. (2017) also found the solution to Zanzibar's clove industry problem with the adoption of Waqf in the Supply Chain Model with Muzar'ah. They added the Waqf institution, which provides land to the farmers, including information on micro and macroeconomics data from financial institutions through the Model (Moh'd et al., 2017).

Past studies on different industries and in diverse countries, reported in the literature, have also supported the argument that Supply Chain and Islamic Finance are able to solve real business problems. According to Gundogdu (2010), the Salam Contract is suitable for the agriculture sector. For cotton farmers as examples, the Contract adequately provided for their supply chain financing needs, from input financing to cotton thread export. The study dealt with the cotton industry in West Africa, where a multi-parties comprehensive model was used, which covered the whole supply chain from seed cotton to international off-takers (Gundogdu, 2010). Shamsuddoha et al. (2015) studied the poultry industry in Bangladesh. In-depth interviews were conducted to source information on Supply Chain and Islamic Finance. Their findings proved that a sustainable poultry Supply Chain model can be developed with the consent of Islamic Finance (Shamsuddoha et al., 2015). In a step forward, Gundogdu (2020) attempted to explore an alternative Islamic Monetary System approach with the help of Supply Chain grassroots, under the concept

of barter and Electronic warehousing. The finding showed that Information Technology and Supply Chain can form a monetary system based on Real economic activities with the help of Islamic Finance Contracts.

The different modes of Islamic Finance can support different stages of the supply chain or value chain. Hussain and Musa (2016) supported this argument in a study conducted on small farmers in Indian Kashmir. According to this study, *Mudarahah*, *Musharakah*, or Agency (*Wakalah*) are able to support overall value chain activities. *Salam and Istisnaa* can support at the input and processing stages while Agency (*Wakalah*) and *Jualah* may assist brokerage and services actors. Conversely, the wholesale and retail sectors can get support from the *Murabahah* and *Ijarah*, according to the study by Hussain and Musa (2016).

As explained in past studies, the IF-SC can solve real business problems with different Islamic Finance Concepts and at different Supply Chain stages. According to these studies, the FinTech inclusion with the IF-SC can create the solution to be more efficient and effective (Gundogdu, 2020; Ningrat & Nurzaman, 2019).

### **IF-SC relationship – Support beyond normal financing**

The Financial Support coming from Islamic Finance is self-explanatory as inherent in its name. Nevertheless, the IF-SC relationship does not only provide solutions to business financial problems, but it can also offer support beyond financing, especially for small and Medium Enterprises (SMEs), including farming. SMEs have issues to address, including information asymmetry, lack of collateral, and inexperienced management (Shaban et al., 2016). The Muzara'ah Supply Chain model of Oladokun et al. (2015) mentioned support provided for Logistic and Supply Chain in seed supply, chemicals, storage, machinery and transportation. The support also included expertise in their model for regular monitoring, agriculture, related micro and macro-economic data and market dynamics. Moh'd et al. (2017) also made a similar presentation in their Waqf-Muzara'ah Supply Chain Model for the clove industry in Zanzibar. More advanced models have been proposed, such as by Gundogdu (2020), who included the Licenced Warehousing (LW) and Electronic Warehouse Receipt (e-WHR) concepts. These concepts enabled the electronic trading platform through microfinance contracts with farmers that are shari'ah-compliant.

## Technology Usage for Islamic Finance and Supply Chain Management

The use of technology for Islamic finance and supply chain integration can lead to a win-win situation for the supply chain and Islamic finance entities. In the studies under review, Ningrat and Nurzaman (2019) focused on providing the framework based on technology for Islamic finance to the value chain of Agriculture. According to them, the FinTech enabled platform can improve the efficiency of the actors, including the funds' providers, farmers, investors, mediators, retailers (Ningrat & Nurzaman, 2019). Similarly, Hussain and Musa (2016) also reported with the reference of Obaidullah (2015) that Islamic microfinance institutions in many countries, including Pakistan, are doing experiences by project-based approach with areas other than finance such as technology and production. On another side, Gundogdu (2020) presented the ideas for making a novel Islamic monetary system using the technology to supply chain based Islamic way of money creation. It can be assumed as the highest level of technology usage for Islamic finance and supply chain management.

## Integration of Islamic Finance and Supply Chain Concepts and its Models

There are limited studies on Islamic Finance and Supply Chain Management, and some of these were discussed earlier in the preceding sections. Some studies on IF-SC relationship models were identified in the literature through the SLR and extended SLR, as discussed earlier. The relevant models are described below.

### **a. Muzara'ah and Supply Chain Model by Oladokun et al. (2015)**

In this model, the researchers used the Islamic Finance concept of Muzara'ah with profit and loss sharing together with Logistics and Supply Chain as their solution to Nigeria's agriculture sector problems. According to this model, Islamic Financer will enter a partnership contract with the farmers and provide the capital and logistics and supply chain support in the form of seeds, chemicals, storage, machinery, and expertise support (Oladokun et al. 2015). Conversely, the farmers make their contribution in the form of labour. According to the model of Oladokun et al. (2015), the output would be sold to the market before the profit or loss distribution to the farmers and the Islamic Financer.

This model was limited to the agriculture sector and confined to the Muzara'ah's concept of Islamic Finance. Since it was still at the proposal stage, a sur-

vey was conducted to test its acceptance using a structured questionnaire sent to 31 well educated Nigerian public. Most of the respondents accepted the model and preferred its adoption in Nigeria's agriculture (Oladokun et al., 2015).

### **b. Waqf-Muzara'ah and Supply Chain Model by Moh'd et al. (2017)**

A similar model for the agricultural sector was identified in the literature. Based on Muzara'ah's Islamic Finance and Supply Chain concept, the model includes another Islamic Concept, the "*Waqf*". In this model, the Waqf institution provides the land to the farmers. Provision for Muzara'ah financing, logistics, and supply chain support, along with expert support and macro and micro information, are proposed for the farmers (Moh'd et al., 2017). The first author of this paper also researched on a similar topic for his PhD dissertation. To conduct interviews on the sector model, he developed a survey instrument based on the "Theory of Reasoned Action". The survey data were analysed by the Structured Equation Modelling (SEM) in the SPSS software (Moh'd, 2018). As with the earlier model, the *Muzara'ah's* Islamic Finance and Supply Chain is also at the proposal stage.

The supply chain and value chain financing are similar (Ningrat & Nurzaman, 2019). There are also Islamic finance and value chain integration models (Hussain & Musa, 2016; Ningrat & Nurzaman, 2019) and frameworks (Wildana & Alhabshia, 2018). Unlike *Muzara'h* supply chain models, the Islamic value chain financing model by Hussain and Musa (2016) consists of different Islamic finance modes at various stages of the value chain. Similarly, Ningrat and Nurzaman (2019) also used different Islamic Modes of finances, but with emphasis on the usage of Fintech. As with the model of Moh'd et al. (2017), Wildana and Alhabshia (2018) used *Waqf* and *Muzara'ah* in their framework. They also employed other Islamic finance modes such as Musharakah, Mudarabah, Ijarah and Salam in their proposed framework. Their focus was on food security and price stability policy. However, all these three models, along with the above detailed Islamic Finance Supply Chain Models, have focused on the agriculture sector.

## **Discussion, Conclusion of SLR and Future Research**

The study's first objective is to discuss the involvement of Islamic finance in financed assets' supply chain. Accordingly, this study's first research question is "how Islamic finance is involved in the financed asset supply chain and how is this involvement different from its conventional counterpart?" This objective is realized, and the research question resolved through library research or non-systematic

research method in section two of this study. Islamic banks need to purchase and sell their financed asset in most Islamic finance modes due to shari'ah regulations and compliance since they are involved in the financed assets' supply chain.

The second objective is to systematically search and review the literature that focuses on Islamic Finance together in relation to the Supply chain (IF-SC). In this perspective, the proceeding paragraphs discuss the research questions that lead to resolving the objective. This section also concludes the SLR and suggests future research. The first part of the second research question is, "what studies are available (in selected leading academic databases) that focus on Islamic Finance in relation to Supply chain (IF-SC), and what are the themes provided in these IF-SC studies?". Overall, the SLR found eight direct relevant articles after searching and reviewing several databases. Since IF-SC is a relatively new area, and its information in the literature is still limited, the number of articles found can be considered acceptable since most related studies did not adequately address the IF-SC relationship. Conversely, in areas that were sufficiently covered but as a single field study, SLR can find in more than a hundred relevant articles.

The last part of the second research question is, "what are the themes provided in these IF-SC studies?" The SLR discovered two main themes, including a few models and frameworks which proved that Islamic finance can support supply chains as an ordinary financial institution. However, it is not limited to this role. The role of Islamic finance can be more significant than just being the normal financier. It can function as a supply chain partner, as explained by the *Muzara'ah* Supply Chain model, *Waqaf-Muzara'ah* Supply Chain Model and other frameworks. It is also evident that the studies identified predominantly focus on the agriculture sector. As such, the supply chains of other sectors, such as SMEs, should be considered in future research.

Reporting of the IF-SC studies in the systematic literature (WoS, Scopus, Emerald, MyCite) and in the less-Systematic Literature search in Google Scholar can be concluded as somewhat limited, although some relevant works were identified as discussed earlier. There is an overall paucity of studies that examine the theoretical concept of the Islamic Financer stake in SCM Flows (of the financed assets') using any method or in relevant context. Similarly, studies of Supply chain functions and Islamic finance modes were not found in the literature search and review. Furthermore, information on the role of the Agency (*Wakalah*) in the Islamic finance and supply chain integration visibility was also not found either systematically (in WoS, Scopus, Emerald, MyCite databases) and less systematically (in Google Scholar) in the reviewed literature.

The studies reviewed suggest that Islamic Finance is capable of solving real-world problems, not only in financing but also those beyond financing issues. The models presented in these studies described how Islamic finance and supply chain concepts are interrelated and integrated and how they can provide solutions. Methodological analysis conducted on the studies indicated that three out of eight were case studies. Since the area is inadequately researched, further in-depth case studies should be conducted, and future researchers should also undertake more expert survey-based studies in different areas. Most of the studies analysed were conducted in the context of the agriculture sector. As such other sectors need to be studied, such as in the possibilities of Islamic finance and supply chain integration and their impact on less developed but critical economic sectors such as the SMEs in different countries and regions. The studies utilized the Islamic finance concepts but mostly ignored current Islamic banking, which comprise 71.7% of the present Islamic financial services industry. It is thus suggested that future research should consider Islamic Finance and supply chain integration within the perspective of formal Islamic financial industry, especially Islamic banking.

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## APPENDIX A: More SLR literature Search In June 2021

### **Database: Web of Science**

Indexes=SCI-EXPANDED, SSCI, A&HCI, CPCI-S, CPCI-SSH, BKCI-S, BKCI-SSH, ESCI Period of review (Timespan)=All years (1970-2021) up to 16th June 2021

Keywords (as SLR search string): TS=( ( “Islamic Financ\*” OR “Islamic Bank\*” ) AND ( “Supply Chain” OR “Supply Chain Management” OR “Supply Chain Flow\*” OR “Value Chain” ) )

Authors and Year	Title	Source title	More SLR Literature
Gundogdu (2010)	Islamic structured trade finance: a case of cotton production in West Africa	INTERNATIONAL JOURNAL OF ISLAMIC AND MIDDLE EASTERN FINANCE AND MANAGEMENT	Already included
Shamsuddoha et al. (2015)	Sustainable poultry production process to mitigate socio-economic challenge	HUMANOMICS	Already included
Moh'd et al. (2017)	The problems facing agricultural sector in Zan-zibar and the prospects of Waqf-Muzar'ah-supply chain model The case of clove industry	HUMANOMICS	Already included
Siti-Nabiha and Norfarah (2020)	Performance of Islamic Microfinance Institutions: Accounting for Well-Being	GLOBAL JOURNAL AL-THAQFAH	These papers were
Ahmed et al. (2020)	Operational definition for doubtful activities (Shubuhat) based on Islamic finance perspective	JOURNAL OF ISLAMIC MARKETING	SLR found more literature in June 2021, but the paper found out of scope, i.e. focus of the papers are not on Islamic finance and the supply chain of the financed assets.
Bukhari et al. (2020)	Determinants and outcome of Islamic corporate social responsibility (ICSR) adoption in Islamic banking industry of Pakistan	JOURNAL OF ISLAMIC MARKETING	

## APPENDIX B: Arabic Words from AAOIFI Standards

English	AAOIFI Shari'ah Standard Number	Arabic words
Murabahah	8	المربحة
Ijarah	9	الإجارة
Sharikah (Musharakah)	12	الشركة و المشاركة
Partnership of Ownership (Sharikat al-Milk)	Part of Shari'ah Standard 12	شركة المك
Diminishing Musharakah	Part of Shari'ah Standard 12	المشاركة المتناقصة
Salam	10	السلم
Istisnaa	11	الاستصناع
Agency	23	الوكالة
Jualah	15	الجعالة
Al-Wakalah Bi Al-Istithmar (Investment Agency)	46	الوكالة بالاستثمار
Mudarabah	13	المضاربة

Source: Accounting and Auditing Organization for Islamic Financial Institutions.