International Journal of Scientific & Engineering Research, Volume 4, Issue 6, June 2013
ISSN 2229-5518

Managing Supplier Insolvency

Dr. Mohamed Baymout, Ashish Chhattani, Amro Helali, Hafiz Ali, Sowmyan Jegatheesan

Abstract— A project that is a critical, constrained and has immovable deadlines the risk management is essential, particularly in the supply chain where supplier insolvency can cause significant delays. Therefore, insolvency management is a key Supply Chain Management (SCM) strategy. The SCM strategy should be specifically developed to positively influence the delivery of projects. The approach should ensure that both horizontal and vertical supply chain dimensions were managed to improve efficiencies and facilitate an integrated and collaborative approach to delivery. The increasing global financial instability this takes on additional emphasis to manage the potential risk of supplier insolvency. While an active approach to managing supplier risks is to be employed through industry-leading procurement and SCM best practice, further assurance and mitigation measures are needed to both understand these emerging risks and their potential impact. The SCM team should implement processes to reduce the impact of contractor insolvency to the project.

Index Terms— Supplier Insolvency, Supply chain Risk Management, Insolvency Management, Risk mitigation in Supply Chain, Insolvency, Financial risks in Supply Chain.

1. Introduction

1.1 Insolvency

“In legal terminology, the situation where the liabilities of a person or firm exceed its assets is known as Insolvency. In practice, however, insolvency is the situation where an entity cannot raise enough cash to meet its obligations, or to pay debts as they become due for payment”.[10] Insolvency can lead to legal proceedings, in which actions will be taken against the insolvent entity and assets may be liquidated in order to pay the outstanding debts.

1.2 Insolvency and Bankruptcy

In many situations, insolvency and bankruptcy are often confused and are used as interchangeable terms but these terms are not same. Insolvency is a financial/accounting term that means one has liabilities or debts in excess of their assets. Obviously insolvency is an important thing to consider in credit matters and financial analysis. Many companies/people may be insolvent without any outward signs or even as part of their plan. A start-up for example frequently is in the state of insolvency but its plan is to generate income in the future, as it markets its products, and have more assets than debt.
Bankruptcy on the other hand is a legal terminology and is actually a legal process. To be bankrupt, one needs to file the required documents under the appropriate Law of the respective country, and has to be declared bankrupt. This process is accompanied with legal proceedings which have to do with the court providing financial protection and taking over the affairs of the bankrupt. Commonly (and the way the Law is intended), someone becomes insolvent, with no chance of remedy, before they file bankruptcy.

2. Literature Review

The most important criteria to evaluate insolvency risks are "gut feeling" or intuition. Scientific insurance evaluation methods, such as the claims expectation value or other approaches like Mean Time to Repair (MTTR), are not prevalent. The degree of professionalization in evaluating insolvency risk in Supply Management is low [5]. The first and obvious risk due to supplier bankruptcy is Supply Chain Disruption. The second type of risk arises from supplier filing for Bankruptcy Protection [6]. First tier and second tier suppliers in the German automotive industry in order to explore their approaches to recognize supplier insolvencies and it is a major source of supply chain disruptions, such supplier risks be managed proactively to avoid their occurrence. However, business practice seems to fail with this task. A holistic risk management approach throughout all corporate management levels is required to proactively mitigate supplier insolvency risk [7].Retailers should consider what systems they have in place and how they can improve them to reduce the risk and fallout of supplier insolvency [8].The insolvency or financial distress of a key business relationship requires a coordinated business and legal response that is often overlooked and poorly coordinated. Unless there is a coherent and integrated strategy for dealing with the unavoidable conflict and changes that insolvency creates, many companies will continue to learn the need for a national insolvency program by experiencing the unexpected and unhappy consequences of its absence [9].

3. Impact of Insolvent Entity in SCM [11]

A successful supply chain depends on success of the entities present in the process and smooth flow of the products across the chain. If any of the entity is not performing as expected, it hampers the complete supply chain. So the effect of insolvency is many folds when it comes to supply chain. Some of the impacts are as follows:

International Journal of Scientific & Engineering Research, Volume 4, Issue 6, June 2013
ISSN 2229-5518

- Financial instability
- Time management
- Disruption in production lines
- Delayed deliveries to other customers
- Inefficiency in the process
- Increased costs
- Unsatisfied Customers

4. Insolvency Management

Today, business has become a very complicated process. A lot of entities and organizations are involved right from supply of raw material to the selling of finished products or services. Deadlines and pressure to meet the demand is very high. In such a scenario, the proper functioning of all these entities becomes very important for the desired functioning of business. As a part of this supply chain, it becomes very necessary to take some precautionary measures and have business continuity plan in place if some of the partners go insolvent.

Insolvency management can be:

- Planning that insolvency does not occur at all.
- Managing the potential risk of insolvency.
- Reducing the impact caused, in case of insolvency.
- Measuring and monitoring the timely flow of material and services.
- Having proper contract and agreed procedure for cases of insolvency.

5. Warning Signs [11]

In spite of the fact that company can turn into insolvent overnight, but this is not always the case. In many of the situations risk of insolvency can be mitigated by taking care of warning signs of the suppliers and partners. Some of the signs can be listed as follows:

- Requests from the supply chain for deposits or pre-payments.
- Schedule slippage of the delivery.
- Complaints from other members of the supply chain.
- Attempts made to inflate payment applications.
- Unexpected price rises or any attempts to renegotiate pricing or terms.
- Failure by a member of the supply chain to file statutory accounts on time.
- High staff turnover & Rumors and market intelligence

6. Methodology – SCM approach to supplier insolvency risk management [1]

When the supplier fails to provide the output on time the three key risk factors should be managed closely.

6.1. Schedule performance

Ensuring the continuation and availability of key resources (including staff, plant, equipment and materials) and that the work should continue if there are minimal delays but there should be a backup plan. So that the supplier failure will be compensated by backup plan to meet the requirement on time.

6.2. Cost impact

This factor will really impact on the project and the timeline when supplier fails to deliver on time. Mitigation actions include full ownership right on the purchased material. Level one contractor should not be overpaid for the goods and services, or it will impact overall on the project and also deeply affect on the sub-contractors. Insolvency administrator personnel will be the key person who will be communicating and making negotiations with the suppliers who want to continue the operation of site works on priority.

6.3. Quality Performance

When the supplier fails to produce quality of work but not to stop completely and this also limits the scope of contract. So this has to be taken care.
SCM approach towards the supplier insolvency risk management would have three steps.

- Prevention and protection throughout the procurement selection processes
- Awareness and planning during the delivery phase
- Recovery and impact mitigation in the event of insolvency

7. Procurement and supplier selection

The overall focus is insolvency mitigation and recovery. The objective is to take care of the selection and approval of the contractors, sub-contractors along with some specialist suppliers.

7.1. Supplier selection and Tier Two approvals

Supplier selection and their approvals will be done together by the level one contractor and the project manager under the terms of contract. As these approval follows a consistent, rigorous process and they have the authority for final decision. A document called Delivery Partner's obligations would be signed after the confirmation of supplier in which every detail is written.

7.2. Financial checks on suppliers

Credit and financial checks will be made before finalizing the supplier's engagement. This can be performed by involving a Financial Credit Rating Agency and using their latest available data through the research reports and tools.

International Journal of Scientific & Engineering Research, Volume 4, Issue 6, June 2013
ISSN 2229-5518

There is a minimum threshold value of bidding so that every supplier should bid for contract beyond that threshold value. They also ask the suppliers to submit the mitigation strategy which says that how the supplier would be able to supply when knowing the ongoing commitments or existing clients. They also use the Financial Credit Rating Agency indicator to help in delivery phase to monitor the ongoing financial stability of main and critical contractors.

The SCM team will be responsible for monitoring and tracking any changes in financial position that might cause concerns for the critical suppliers. The following information was monitored by the SCM team on a daily basis:

- Capacity is to check the supplier has capacity to produce and deliver on time.
- Tender Status will be identified so that the critical supplier who has issues will report to the main contractor for negative or unfavorable change in the financial position and team will also suggest the alternative against that contractor. So in that way delay is avoided in the ongoing project.
- Lead - Industry standards lead in time for the package and tested.

The SCM team also used the risk rating report produce by Financial Credit Rating Agency and they are more concerned about the overall risk failure by calculating the different metrics. Below are the key factors of risk ratings are:

- Failure Score
- Risk Indicator
- Delinquency Score
- Financial Strength

If supplier has bad rating its does not mean that they cannot become the contractor, by providing additional information and the assurance from other contactors which takes guarantee. Financial audit will be performed, confirmation from banks for important information and other information ensures that supplier would fulfill and meet the entire requirement during the projects.

7.3. Critical packages and monitoring process

Some packages were more critical to the project than others and not necessarily in proportion to cost.

These considerations should be identified for the critical packages on the project.

- When supplier is on the critical path or contract.
- Delay in project due to the package.
- Checking the contractor involving in other contract during this project which is recognizable.
- By looking the remaining part of the supplier contract.

8. Awareness, Planning and Risk Reduction

This stage is very critical for the continuity of the project and making sure that the project meets the scope, budget and pre-set deadlines [3]. At this stage the critical contractors are identified and monitored for any signs of coming insolvency. If any contract shows signs of insolvency, proactive steps are taken immediately to avoid the consequence of the insolvency. Although at the first stage measures were taken to avoid contracting contractors, who are at risk of insolvency, if there are more contractors, insolvency incidents are inevitable.

At this stage also it is very important to identify the critical packages which are vital for the continuation of the project, and if any of these critical packages' availability is in risk in the near future, an accelerated buying would be applied in order to prevent any missing of the critical packages which might hold some of the ongoing construction projects. This step is considered a risk reduction activity.

Moreover, at this stage the IP rights are secured, that if an insolvency event occurs, it would be easy to take hold of the equipment and property of the supplier who is not capable of continuing the project. Also during the course of the project all the equipment's and construction material's location and status are known and documented that in case of insolvency the takeover will move smoothly and swiftly.

At this stage also a contingency plan is developed with in cooperation with the supplier and an action plan is prepared and triggered in case the solvency occurs. Also at this stage alternative suppliers and resources are identified, especially for those with high risk

9. Recovery

Although the pervious steps has eliminated many supplier who are at risk of insolvency, still insolvency is inevitable because of the huge size of the project and the financial climate. The recover stage is activated once the insolvency occurs and it has five main parts.

9.1. Security

Once insolvency occurs the first step is to secure the assets. Legal experts might be needed in this step in order to make sure all the rights are secured and the execution of all the actions is granted.

9.2. Contract termination

Legal steps should be taken to move forward with the termination. A notice should be given to all the stakeholders that termination is the best action possible, meanwhile steps

International Journal of Scientific & Engineering Research, Volume 4, Issue 6, June 2013
ISSN 2229-5518

should be taken to secure all the rights of the supplier such as conducting full valuation and payment of all the work till the moment of termination [4].

9.3. Communications

A proper communication is conducted by the recovery team with all the stakeholders. At many times the communication would be done with the second tier suppliers; therefore, it is important at this stage to communicate directly with the first tier suppliers and do not communicate with the second tier supplier without approval from the supplier higher in the hierarchy.

9.4. Recovery team

The recovery team is composed from key executives from all the stakeholders in order to insure authority and capability to take and force decisions. This will lead to a minimal impact of the insolvency. The recovery team will manage all the communications with all the stack holders and monitor the implementation of all the actions.

9.5. Contingency plans

The recovery team will monitor the implementation of the contingency plans which are created in Step2. The contingency plan will insure all the steps are taking in a sequential manger and monitor the status and timeline of all the actions to assign a new supplier and make sure the work is progressing smoothly.

10. Effective Working of the Process

Being a very complex task of mitigating the insolvency risk there is a need for high degree of Supplier visibility for identifying and registering critical aspects. The Intelligence gained from engaging with the market and suppliers was critical and the Interventions were key in the effective working of the process. There was also a need for daily monitoring where the critical packages and components were involved.

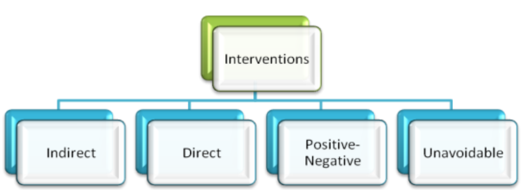

Figure 1: Types of Interventions [1]

11. Key Objectives in Tackling Insolvency

To identify and remove potential supplier threats earlier through early Intervention – Investigation - Mitigation strategy [2]. To remove risks at the tender stage acknowledge potential threats and risks during procurement and mitigation plans developed to protect in the event of failure. Small number of insolvencies would be inevitable. Business debt and the refusal of lenders to extend terms would further impact cash-flow but this may or may not be insolvency. Mitigating supplier insolvency risk is effective at both project and program level, it is impossible to entirely mitigate all the risks associated with failure in the supply chain

12. Key steps to be followed in Insolvency Management

- Financial Rating
- Legal Expertise
- ‘What if’ scenario planning
- Insolvency Recovery team
- Reviews of financial standing
- Using Financial Situation in Selection Process
- Contingency Planning for Critical Packages
- Risk analysis – Mitigation strategy
- Realistic expectations from Suppliers

13. Risk Timeline

Insolvency should be treated as a risk from the beginning and we have mapped the steps involved in accordance with the whole supplier selection process, awarding of the contract and in the recovery phase when there is inevitable insolvency.

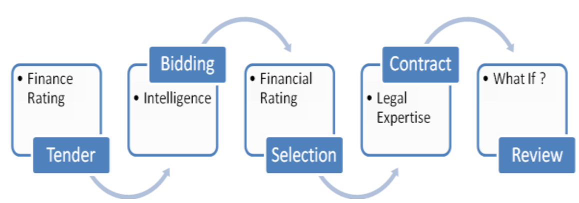

Figure 2: Risk Timeline

14. Conclusion

Improvements in the insolvency management in SCM processes are possible if the procedures are followed effectively. Some complex supply chains don’t plan for supplier insolvency considering the fact that it may not affect the supply chain and it’s a private problem of the supplier himself but it has proved otherwise in many cases. The key

International Journal of Scientific & Engineering Research, Volume 4, Issue 6, June 2013
ISSN 2229-5518

lies in how to identify a failing business and understanding of contractual terms.

"Supply chain management processes should be supported by proven, successful methodologies in removing project and program level insolvency risk"

REFERENCES

[1] Lythaby, M., and J. Mead. "Supply Chain Management – Insolvency Management". Publication no. ODA 2011/031. London: Olympic Delivery Authority, 2011.

[2] "Contractor Insolvency Contract Risk Management". Rep. Turner & Townsend plc, 2009.

[3] W. Jennings, "Olympic Risks" ISBN: 781137022004, 2012

[4] R.Newman ,"Managing risk across the Olympic programme", London 2012

[5] "Supplier Risk Management in the Automobile Industry." Supplier Risk Management in the Automobile Industry. 1 Apr. 2013 <http://www.ebs.edu/iscm/1763.html?&L=1>.

[6] M. Shah, "Supplier Bankruptcy – A Real Risk during Recession." Web log post. Infosys - Business Technology Consulting | IT Services | Enterprise Solutions. 23 Mar. 2009. 1 Apr. 2013 <http://www.infosysblogs.com/supply-chain/2009/03/supplier_bankruptcy_a_real_ris.html>.

[7] "Project: Live and let die? Supply risk management in the automotive industry." UCL - Performance & Risk Managemen. 8 Jan. 2013. Louvain School of Management Research Institute Centers of Excellence In Supply Chain Management. 1 Apr. 2013 <http://www.uclouvain.be/en-393100.html>.

[8] "Five simple steps managing risk supplier insolvency." Web log post. Bond Pearce | Listen. Think. Talk. 1 Apr. 2013 <http://www.bondpearce.com/publication/five-simple-steps-managing-risk-supplier-insolvency>.

[9] O'Dea, Dennis. "Insolvency Response Planning Is Business Planning." Web log post. SFS Law Group Insolvency Initiative. 1 Apr. 2013 http://www.sfslawgroup.com/insolvencyresponseplanning.html

[10] "What is insolvency? Definition and meaning." Business dictionary. 1 Apr. 2013 <http://www.businessdictionary.com/definition/insolvency.html>.

[11] "Construction supply chain insolvency." Web log post. Construction supply chain insolvency. 1 Jan. 2012. 1 Apr. 2013 <http://www.out-law.com/en/topics/projects--construction/construction-contracts/construction-supply-chain-insolvency/>.

Dr. Mohamed Baymout earned his PhD in Management Science from the University of Wexford in Zurich, Switzerland and his MBA and BSc in Industrial Management with a major in Operations Management from the University of Petroleum and Minerals at Dhahran, KSA. He also earned C.O.R.S (Canadian Operational Research Society) Diploma from the University of Ottawa, Canada. He taught several undergraduate and graduate courses at Telfer school of Management at the University of Ottawa, Canada. His research interest is in the areas of production and operations management.

Ashish Chhattani, Amro Helali, Hafiz Ali and **Sowmyan Jegatheesan** are students in the Masters in the Electronic Business degree program at the University of Ottawa, Canada.

This paper is authored as a review article from the lessons learnt documents of the London 2012 Olympic Supply Chain Management.