Supplier Risk Management In Automobile Company To Mitigate Risk Down The Supply Chain

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Abstract- Many Automobile companies have witnessed lot of turbulence in recent 2-3 years due to IR issues, Fire incidents, Structural collapse incidents, power shortage in some areas, natural calamities at many locations.

Such issues have caused lot of damage including loss of production, very high cost of procurement of automobile components to run final manufacturing line.

Hence, in such scenario, there are various categories of risks identified which can predict and mitigate some issues caused because of geo- political risks, financial risks, market risks,, strategic risks, catastrophic risks etc.

As the current scenario is quite volatile, so supply chain of various automobile companies is experiencing all sorts of risks mentioned above. However since there is no structural approach to manage unpredictable risks, the situation is leading to more of reactive approach. On such risks, rather than reactive approach one should go for proactive approach.

I. Introduction

Automotive companies in today's world are embroiled in worldwide uncertainty, change and unprecedented risk. Nearly everything about the business is changing- the products, the services, and the challenges. At the center of this massive change is the automobile supply chain, which is most affected. For an automobile company, to emerge from this period of transition as healthy and vibrant businesses, depend largely on how its supply chain proactively adapt to change and respond to risks and keep clear visibilities.

The top challenges are:-
Minimized costs
Maximum delivery performance
Global Quality level
Agility, flexibility and responsiveness
First mover on latest cutting edge technology introduction and
Supplier risk management

II. Objectives of SRM:-

Through this approach one has to work in direction through which pro-actively the risks associated with supply chain management are identified and accordingly actions are taken well in advance.

For this various types of risks have been categorized into different buckets.

The buckets are categorized as red, yellow and green based on severity of risk associated with the company. This is quite helpful approach in identifying the upcoming risks covering major parameters of company.

III. Theory:-

Majorly SRM is categorized into two divisions.

a) Component risk
b) Commodity risk

Component risk can be explained as, Non supply of a particular component at required time and hence stopping the production.
This can happen due to various reasons like: like breakdown at supplier end, IR issues at supplier end, issue at Tier-2 and Tier-3 suppliers, less focus of top management, financial crises, safety risks etc.

Commodity risk can happen in some cases. Even if we have multiple sources for a product but if there are some catastrophic issues or there are some regulations or Norms change worldwide in that case there can be complete shortage of product again hampering production lines. Such cases can be handled by proactive approaches only.

The various risk buckets that have been defined are:-

a) Management Risk Bucket
b) Dependence on Tier-2/3 supplier Risk bucket
c) Labor Risk Bucket
d) Power Risk bucket
e) Machinery Risk Bucket
f) Safety Risk bucket
g) Performance Risk bucket
h) Funding Risk bucket
i) Liquidity Risk bucket
j) Profitability Risk bucket
k) Geo-Political Risk bucket

Management risk Bucket: - A change in top management (CEO, COO) or the company changing owners etc. would be covered by this metric.
Instances of management change would include:

1. Change in a senior position (CEO, COO, CFO) or Chairman of Board
2. Company going public / private
3. Significant change in company shareholder partner.

Dependence on Tier-2/3 supplier Risk bucket: - If dependence of OEM on Tier-2 / Tier3 is more then it is a concern for OEM. This can lead to monopolistic situations. If there is any critical Tier-2 or Tier-3 then supply chain smooth processing may get hampered. Process maturity at Tier-1 must be there. If for any child part dependence of Tier-1 is more than 50% on Tier-2 or Tier-3 then Tier 1 must look for second source options. Buffer capacity down the Tier chain must be available.

Labor risk bucket:- It covers topics like: labor unrest, disruptions due to IR issues, Affiliation of labor union, contract labor ratio versus permanent manpower, dedicated people for critical operations etc. In some situations there is not complete labor unrest but intentionally workers work slowly to produce less or absenteeism is very high. These small intentions if prevails for long then ultimately the end results are threatening.

Power Risk Bucket:- Power risk involves risk related to availability of power in company. This bucket mainly involves two topics. What is state power situation and second is there adequate Power back up available within the company or no. This includes availability of DG sets.

Machinery Risk Bucket:- In this bucket, risks related to maintenance of machines is accessed. Normally it is preferred that the supplier meets the production volumes by running production for two shifts only. Third shift is kept as buffer in case any volume increases in near future.

Preventive maintenance of machines must be carried timely without any fail. Vendor must have trained manpower to maintain some special purpose machines and robots. Spare tooling must be available at all times. Tooling preventive maintenance must be followed holistically. Vendor must have tool room or tool maintenance shop. There should not be any delay in machine installation.

Safety Risk Bucket: - In this bucket, safety risks occurred in recent past is captured. Safety rating by third party agencies is mandatory. A safety team must be available in every company. All safety PPE must be available and must be used by all operators on line. Fire prone industries must have all fire safety Equipments.

Performance Risk Bucket: - Through this bucket quality versus delivery rating is calculated for suppliers. If demand is more in certain period then there are chances that quality may go down as operators by pass some checking stations to produce more. In such cases quality issues comes into picture and quality of products is found degraded. Through this method of quality delivery ratio the quality of products is strongly monitored.

Funding Risk Bucket:- In funding risk bucket, the Crisil rating comes into picture. Secondly, the overall financial health of company is accessed with help of this bucket. Debt to equity ratio is calculated. Status of significant investments is monitored.

Liquidity Risk Bucket:- In this bucket, the liquid cash available with company is captured. Sometimes vendor has many funds but it is found that all are invested in long term projects and there is shortage of liquid cash even to manage daily expenses. Such situation is not considered healthy. Salary of employees must be paid on time. Current ratio and current liabilities ratio is monitored. Payments of Tier 2 must go on time. Adequate FG must be available at supplier's end.

Profitability Risk Bucket:- This metric is used to calculate the exposure of supplier to foreign currency fluctuation. From vendor's balance sheet net exposure to foreign currency can be calculated and efforts must be made in localizing the imported parts so that maximum parts become locally available and exposure to foreign currency is reduced. PAT sales is also captured in this bucket.

Geo-Political Risk Bucket:- In this head certain aspects like geo political risks are captured. Does the vendor operate under head of regulatory industry? Number of days for which supply was disrupted due to strike or IR issues is also captured. Any natural risk like Tsunami, cyclone, volcanoes, flooding etc. is studied.

IV. Conclusion

The final conclusion of such assessment will help in predicting unfavorable situations well in advance. Managing the tough situations at time of risks would be easy to handle with pre-defined set of objectives. Approach to proactively assess and avoid potential threats including:

- Structured approach to prioritize categories and suppliers.
- Identification of risks, much before they become evident.
- Mitigation strategies to hedge/ eliminate risks before they happen
- Cockpit view of key risks of suppliers.

V. Results

Smooth production lines in automobile companies even if situations and market is controversial. A structured approach is available with companies which can be followed and various risk are identified beforehand.

VI. Future Scope

Some IT enabled tools can also be made with help of IT experts in which a scoring mechanism can be defined against each bucket score to have easy understanding of risk severity. For example if we look at first bucket i.e. Management risk bucket, then a matrix can be made in which scoring can be given as 0, 1 and 2. If management response is good during last one year and

there is no churn in management then score can be given as 2. If likely change is expected in management in coming year then it should be kept under monitoring then score can be given as 1. If response of management is very poor the score can be given as zero. In similar way scoring mechanism can be defined for each bucket and in single of IT tool the complete picture of supplier can be seen.

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