

Chapter 5

Analyzing the root causes

The root cause analysis (RCA) method is used to determine the underlying cause of an observed or experienced incident. An RCA investigates the incident's cause factors, namely why, how, and when they occurred. An organization will frequently conduct an RCA to determine the root cause of a problem and ensure that it does not occur again.

A variety of sectors can benefit from root cause analysis. When used properly, it can help enhance medical treatments, reduce on-the-job injuries, give improved application performance, optimize infrastructure uptime, eliminate machinery maintenance, provide safer transportation, and benefit a range of other systems and processes. (Robert Sheldon, 2022).

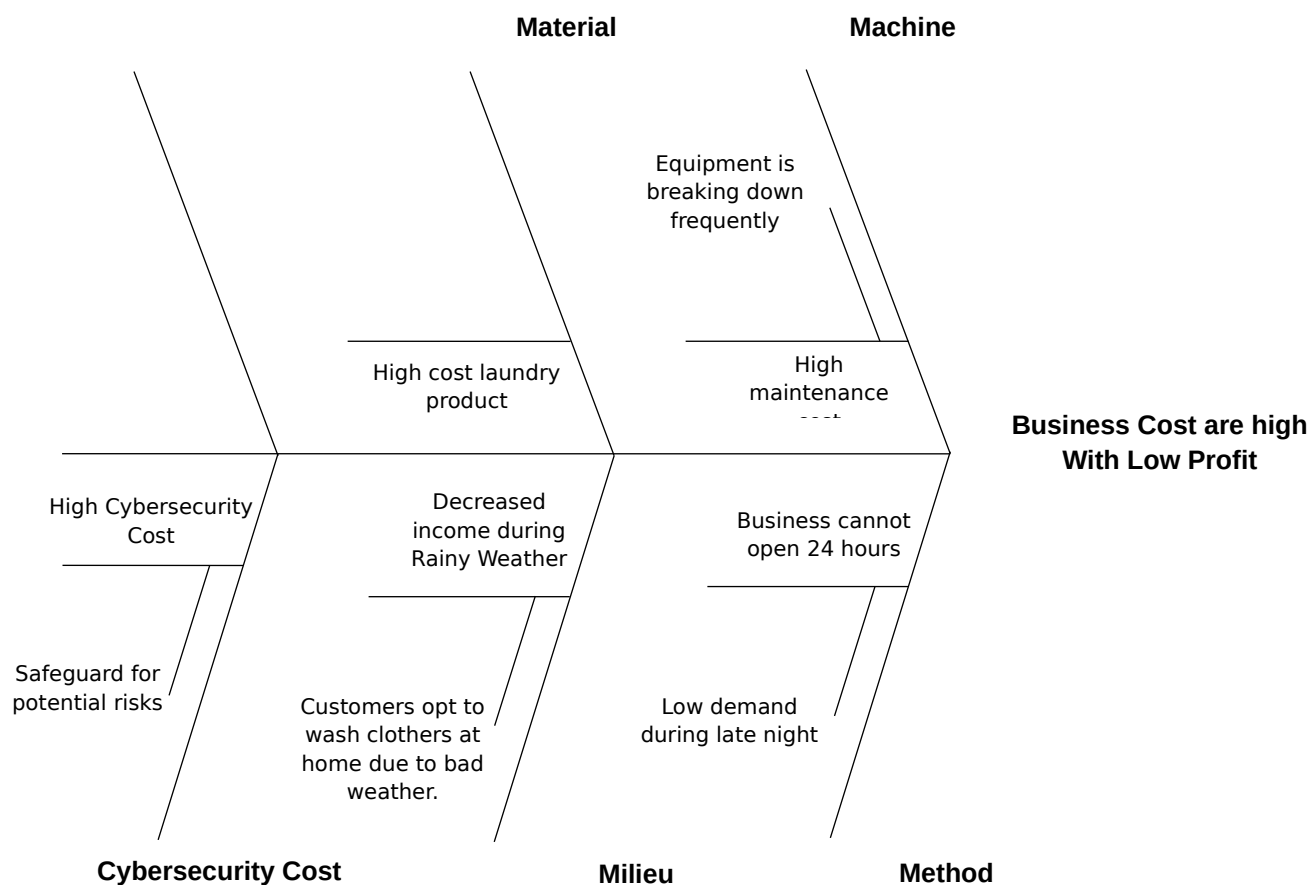


Figure # Fishbone Diagram

The diagram presented shows the business issue and its causes in which are classified into 5 categories: material, machine, cybersecurity cost, milieu, and methods.

The researchers employed a 5 why questioning method to break down each factor until the root causes of the problem were identified.

Problem: High maintenance cost

- Equipment is breaking down frequently. Why?
 - o The equipment is not being properly serviced on schedule. Why?
 - There is no regular maintenance plan in place, and scheduling is reactive, leading to delays and neglect. Why?
 - There were no dedicated maintenance personnel responsible for scheduling and implementing a preventive maintenance process. Why?
 - o The laundry business trimmed the budget for maintenance workforce to save money, resulting in insufficient resources and staff for proactive maintenance tasks. Why?

The root cause of the problem seems to be the lack of dedicated maintenance personnel or resources due to cutting cost.

Problem: Business cannot open 24 hours

- There is a lack of demand during late night hours. Why?
 - o Customers regularly engage during business hours. Why?
 - The laundry business caters customers with typical schedules. Why?
 - Adjusting or extending operating hours would not significantly impact revenue or fulfill customer needs. Why?
 - o Customer usually prefer and expect services during standard operating hours. Staying open longer might not bring in enough sales to cover the increased cost. Why?

The root cause appears to be that the laundry business and customers prefer regular hours. The demand for late-night services is not high enough to make it worth the extra cost.

Problem: Decreased income during rainy weather

- Fewer customer come in to use laundry services. Why?
 - o Customers opt to wash clothes at home. Why?
 - Customers prefer to postpone going to a laundry shop due to the inconvenience of going out in the rain. Why?
 - It is uncomfortable and bothersome to get wet and transport the laundry in rainy weather. Why?

- o The laundry shop is located at place where there is not much convenient access to a parking lot, and shelter for bad weather. Why?

The root cause of the problem appears to be that customers may be discouraged from visiting the facility during inclement weather due to a lack of convenient access to a parking lot and shelter for bad weather, prompting them to opt for home laundry solutions instead.

Problem: High Cybersecurity Costs

- Establishing and maintaining effective cybersecurity measures needs large financial resources. Why?
 - o Cybersecurity monitors all happening inside the laundry business. Why?
 - Business must invest particularly in cybersecurity technologies to secure sensitive data and ensure system safety. Why?
 - Because of the high demand in the business sectors, the cybersecurity manufacturer has set their prices way too high. Why?
 - o The goal of cybersecurity is to protect the business from threats, which explains why the expenses are too high. Why?

The root cause of high cost of cybersecurity is caused by the constant evolution of cyber threats, which requires continuous investment in advanced measures to protect against these evolving threats.

Problem: High-cost laundry materials

- The raw materials used in laundry products are expensive. Why?
 - o The manufacturing process is complicated it requires advanced technology. Why?
 - The packaging for these products is expensive. Why?
 - The packaging design is detailed and includes unique features to differentiate from other products on the market. Why?
 - o Customers expect laundry products to provide accurate and effective cleaning results, so effectiveness is critical for meeting customer expectations. Why?

The root cause of high cost of laundry materials is due to the use of expensive high-quality raw materials, which is driven by the market's intense competition.