

# Establishing Key Performance Indicators

Case company X

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The key performance indicators serve as the navigational tools for a business organization to monitor its performance. They enable the management team to take real time decisions to keep organization's resources aligned to its business strategy to accomplish its strategic objectives. This research was conducted to analyse the process of establishing successful key performance indicators for a business organization. The research was conducted to recommend key performance indicators development framework for the case company and to test the framework to establish key performance indicator for an efficient management.

The theoretical background of the research covers crucial concepts that are needed to be taken in account before developing a key performance indicator project. The theoretical background covers comparison between two key performance development frameworks, the balanced score card framework and the winning key performance indicators development framework. The qualitative research methodology was employed for data collection for the empirical part. The collected data was utilized to analyse the case company's business strategy and core business processes to recommend optimum key performance indicators.

The theoretical research analysis provided that the winning key performance indicators development framework is optimal for the case company to establish its key performance indicators. The empirical part analysis provided that the customer service was a vital business process for the case company that needed to be optimized and measured. The research results aimed to provide key performance indicators, which can be utilized by the case company to optimize its customer service to accomplish its strategic objectives.

The research concludes that choosing accurate key performance indicators is crucial for an organization. The key performance indicators convey the business strategy throughout the organization and they keep its resources aligned to the business strategy.

**Keywords**  
Performance indicators, Key performance indicators, Critical success factors

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## Terminology:

Critical success factors (CSFs)	CSFs are daily basis operational activities that need to be carried out well by the organization's personnel to reach to the strategic objectives of an organization. The critical success factors are considered to be more fundamental than its strategy (Parmenter 2015, 162.)
Key performance indicators (KPIs) / Performance indicators (PIs)	KPIs can be defined as the navigational tools that enable the management team of an organization to have a transparent image of the organization's performance and they pro-vide the ability to make real time decisions to improve performance or to reduce the up-coming negative consequences to the organization." (Marr 2012, XXV.)
Key result indicators (KRIs) / Result indicators (RIs)	The KRIs are the result of joint actions of organizational teams which give a concrete number or a percentage as a result. (Parmenter 2015, 4.)
Performance measures (PMs)	PMs are composed of a number and a unit of measure. The number gives us the magnitude and the unit gives the number a meaning. Performance measures are always tied to a goal or a target." (TRADE 1995, 4.)
Balanced score card (BSC)	Balanced score card (BSC) is a framework for strategic performance management that enables an organization to monitor its performance and align to its business strategy" (Ray 2012, 16.)
Service level agreement (SLA)	SLA is the part of a contract which defines exactly what services a service provider will provide and the required level or standard for those services. (Cordall 2011)
SMART	Specific measurable achievable relevant time sensitive

# 1 Introduction

A business organization is driven by its business strategy that aligns its resources to accomplish certain objectives in an established time frame. A great business starts with a great business idea; the organizations plan well but still many fail in execution. The organization's plan execution and its performance go hand in hand with each other. The performance measurement of an organization is a critical factor that determines its overall operating efficiency. The performance measurement of a company has been always a struggle for the business owners and the management teams regardless the size of the company. Hence, many organizations lag the organizational performance. The management teams create business strategy maps according to which the company should be performing, but often it is not.

"If you can't measure it, you can't manage it." (Marr 2012, XXV.) The key to success for a company is to establish the right performance measures (PMs). PMs can be used by the business owners and the management teams to have a transparent image about the organization's performance. They can be used determine whether the business is going according to the business strategy map. They provide the ability to make real time decisions to the management and the other personnel. The performance measures enable the companies to align their day to day activities to the company's strategic goals. (Parmenter 2015, XV.)

An organization needs to measure only what matters the most to it, in order achieve its objectives efficiently. (Spitzer 2007, 76.) The key performance indicators (KPIs) should be based on the daily critical success factors of a company to align its resources to the business strategy. The KPIs enable the personnel to make decisions with accuracy and efficiency to minimize the negative results to the organization. (Marr 2012, XXV.)

The target audience of this thesis is the case company X and the students, who are interested to develop and implement KPIs to optimize the performance of an organization.

## 1.1 Research background

In order to preserve the confidentiality and the anonymity of the case company, hereafter the case company was named as the "company X" in the project. The case company is a Finnish technology company that produces smart devices. The company is successfully growing in the sector of consumer electronics business. The company was founded at the beginning of 2014. The case company initiated its sales operations at the end of the year

2014, which was a great success. The company X follows the principle of lean start-up management and to compete with its competitors it is vital to continuously optimize the internal processes and reduce the waste. The company X, after its successful launch not only grew in sales volume, but also grew in number of personnel in the company. The management realized that it was very important to measure the company resource performance. The purpose of conducting this research is to recommend relevant KPIs development framework for the operational performance measurement of the case company X. The case company X has proved itself that it has a sustainable business model and it was important to setup an optimized operational structure before the next operational phase.

## **1.2 Research Objectives and research questions**

The case company X was scaling its business to the next level. It was expanding to new markets, which was making it difficult for the management team to measure the performance of the allocated resources. At the current instance, in order to track the performance, the company is using traditional manual methods with spreadsheets, which consumes enormous amount of time. It provided the case company X overall performance but it was unable to deliver the performance measurement at the business process level. Hence, the management team was not able to focus on the processes that were under-performing. At this stage the case company didn't establish any KPIs for monitoring the operational performance. It was crucial for the case company X to establish KPIs at this stage, so that management team could keep a track of operational performance of the company and keep its resources aligned to the company's business strategy.

The main objective of the research was to recommend the case company a KPI development framework, which the company can utilize in future KPI development projects. In this research, the author analysed the case company's core business processes and tested the selected framework to recommend first version of the KPIs for the key business processes of the case company. The research was conducted to answer the following research questions.

- What are key performance indicators (KPIs)?
- How to develop key performance indicators for a business organization?

The main research questions were on an abstract level and in order to answer the main research questions the following sub-questions emerged in the research.

- Why organizations need to measure?
- What is the importance of performance measurement in an organization?
- What are the characteristics of a KPI?
- What are the benefits of the KPIs for an organization?

## **2 Research methodology**

### **2.1 Research scope**

The case company was a novel company with recent establishment of its operations. The key processes were being evolved continuously and they were becoming more sophisticated. The scope of the research was limited to discover the theoretical background of KPIs and development procedure of KPIs. The research includes a comparison of the different KPI development frameworks. The research's empirical part covered the testing of KPI development framework. In the empirical part, an analysis of the company's key business processes was conducted, based on which the first version of KPIs was recommended.

The KPIs implementation and automation is out of the scope of the research and can be conducted as a further research by case company X to optimize its organizational performance.

### **2.2 Research Method**

The research methods used for the research are the literature review and qualitative research methods. The literature review was used to study the fundamentals related KPIs and to analyse the process of developing and implementing the KPIs for an organization. The qualitative research method was used to gather data from the case company's personnel about the company's business processes, critical success factors analysis and to gather KPI requirements for the implementation to test the literature review concepts.

The material for the literature review was gathered from books and articles, written by experts in the field of KPIs and organizational performance measurement. The qualitative research data is collected directly by interviewing the personnel including the top management of the case company X.

The literature review was chosen to get acquainted and to obtain a clear vision of the fundamental concepts that need to be taken into account for implementing a KPI project. The qualitative research was conducted to obtain data directly from the organization, as each organization has its unique business environment conditions and KPIs vary from organization to organization.



### **3 Literature review**

#### **3.1 Organizational performance measurement**

The concept of measurement has existed from ancient times. For example, exchange of commodities for a measured quantity of each other. Measurement applies to our day to day lives and guides our decisions. Similarly organizational measurement enables the management team to take appropriate decisions to align the organizational resources according to its business strategy and to predict the upcoming market challenges. (Spitzer 2007, 11.) The structural complexity of an organization makes it difficult to analyse. Hence, measures are defined to reach an abstract level of the organizational performance.

A large number of organizations outcomes have suffered where the employee actions or the resource alignment did not correspond to the business strategy of the organization. It becomes very difficult for the management team to detect and improve such an occurrence without establishing effective measurement systems. "Effective management is based on effective measurement, and almost everything is based on that". (Spitzer 2007, 13.) Measurement is the base for the management to align organizations resources to the strategic objectives. An accurate and a relevant measurement can lead the organizations from being good to become great organizations. It leads to a precise focus on the processes corresponding to reach the strategic objectives of the organization and increases the visibility of the performance of the resources. Timely measurement can act as a preventive mechanics that provides pre-signals for the upcoming failures and enable the management to take countermeasures before any disastrous outcomes. (Spitzer 2007, 15.) Performance measurement can be defined as a reliable data generation based on the periodical measurement of the results that are generated by a certain resource allocation to measure the effectiveness and the efficiency of the allocated resource. (Spitzer 2007, 13.)

Performance measurement data analysis can be very time consuming for the management team, this is where the performance measures (PMs) come in action. The PMs provide the ability to the management team to navigate through the overall organizational performance in an optimized and rapid way. The organizations are the most complex structures that exist on earth, which are a combination of numerous different elements. The management challenge of all the organizations is to manage these components strategically, synergistically and the appropriate alignment and synchronicity to achieve the

desired goals. The accomplishment of coordination and alignment of these components is not possible in absence of exceptional performance measurement. (Spitzer 2007, 11.)

A smaller organization size, of course has much less complexity in performance measure, but it still needs to measure its performance. As the size increments, the organizational complexity also increases and the performance measurement becomes vital. In today's competitive market, the companies that grow at a rapid pace have a very little space for error or resource wastage as this can push the organization out of the market by reducing its competitive advantage. The organizations that master the performance measurement to manage their business strategy, system and internal process can obtain a competitive advantage by continuous monitoring and process optimization of the organization. (Spitzer 2007, 11.)

Performance measurement promotes an effective management in an organization. Effective management is based on the foundation of the performance measurement. Organizations are a combination of different systems i.e. different business parts by the coordination and synergy of which it can obtain the desired results and measurement is the most fundamental system of the all the others systems.(Spitzer 2007, 13.) In figure 1, we can see how most of the fundamental management systems are based on measurement.

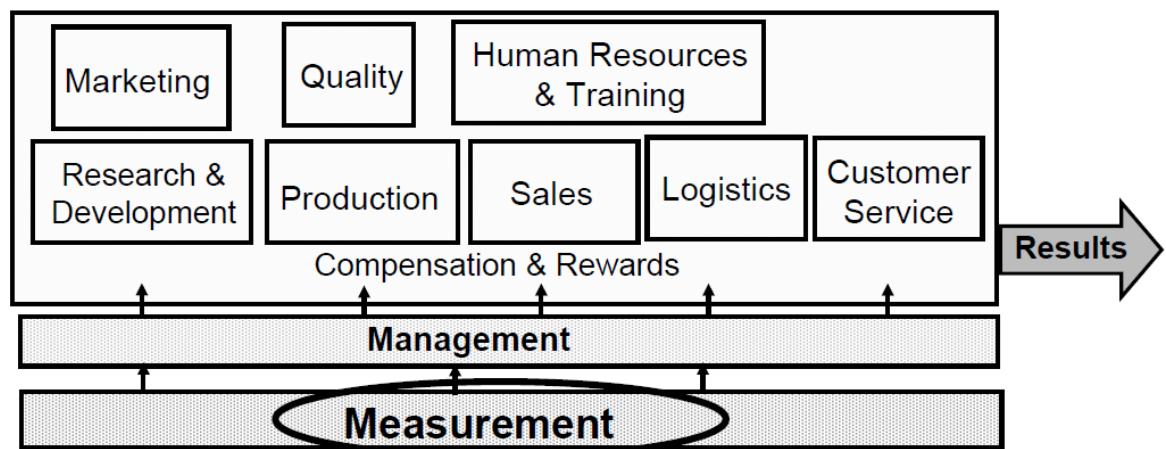


Figure 1 – Measurement as the foundation of management (Spitzer 2007, 14.)

The measurement system is the foundation system for the management of an organization, which provides a clear image of the company's other systems. When the measurement works in an optimal way, it facilitates the management and the business owners, to focus on to manage the business relevant matters. As a consequence desired results will be produced. The measurement systems simulate virtually the real image of the organization's situation that what is in reality happening at both its strategic and tactical level. This is because all other systems are based on the measurement systems and measurement systems provide information about how other systems are performing. (Spitzer 2007, 13.)

### **3.2 Organizational measurement benefits and its challenges**

The organizational measurement has many benefits which includes whether the organization is actually performing according to the company's business strategy or not. The measurement system enables the organization to identify whether the organization is keeping its promise to its customers and meeting to their requirements. Measurement helps the organizations to understand its processes and it facilitates to detect which part of the processes are generating the most value or waste for it. Based on this, the organization can take initiatives to focus and to optimize the processes, and it enables to reduce the waste of resources. Measurements provide the decision making ability based on facts, not on emotion, which are retrieved from the real organizational data and its environment. Measurement enables management implement improvements for performance optimization of the organization. Simultaneously, the management can measure how the improvements are performing either they are working as desired or not. The measurement empowers the company to keep a track of the external stakeholder's performance that they are meeting to the organization's requirements. (TRADE 1995, 7.)

The organizations often face challenges to obtain the maximum benefit from performance measures. At present, there are number of organizations that are not able to establish right measurements. Even there are very successful organizations with a poor measurement system. Such organizations face challenges on focusing their strategic objectives as the managers and their employees don't know what strategy is for their jobs. The management is not capable to manage the operational performance, rather being based on facts it becomes a set of educated guesses. These educated guesses are based on the experience of the management. The organizational priorities become vague and conflicting, and goals can't be set as there are no right measures. The personnel don't have a clear path where to direct and what they are expected to deliver to stay aligned to the strategic objectives of the organization. The management intends to implement improvement methods, but they are not able to monitor which methods are working and which are not. (Spitzer 2007, 14.)

"Performance measures quantitatively provide important information about products, services, and processes that produce them. They act as a mechanism to understand, manage and improve what the organizations do". (TRADE 1995, 4.) Performance measures basically provide the organization information about how well the organization is doing, whether it is moving towards its goals. How satisfied the customers and the internal processes are under statistical control and also where the management need to apply improvements to boost the organizations performance. (TRADE 1995, 4.)

“A performance measure is composed of a number and a unit of measure. The number gives the magnitude and the unit gives the number a meaning. Performance measures are always tied to a goal or a target”. (TRADE 1995, 4.) Most of the performance indicators can be represented by single dimensional units i.e. in meters, dollars, number of reports, number of calls, number of delays, supply chain lead time, customer satisfaction index. (TRADE 1995, 4.)

It is crucial for an organization to determine its performance measures for an effective management. According to David Parmenter, there are four types of performance measures which can be divided in two groups as result indicators (RIs) and performance indicators (PIs) and under these, there are the key performance indicators (KPIs) and the key result indicators (KRIs). (Parmenter 2015, 3.) In this research, author’s main focus was on KPIs.

### **3.3 Key result indicators vs key performance indicators**

A large number of organizations until today don’t differentiate between the key result indicators (KRIs) and the key performance indicators (KPIs). The KRIs are the result of joint actions of organizational teams, which give a concrete number or a percentage as a result. For example, the sales of the current month in euros. Hence, KRIs are limited to the use of the board of the organization to monitor overall performance of the organization but not useful for the management to measure and manage the performance of specific team. On the other hand the key performance indicators are directly related to the organizational team that owns the responsibility of the specific deliverables. For example, number of marketing emails sent to a customer. Hence enables the management to locate directly the ownership of the tasks and it can take specific decisions to improve the performance. (Parmenter 2015, 4.)

The KRIs can be financial and non-financial, but the KPIs are always non-financial measures and the KPIs are measured on 24/7 or daily or weekly basis, which are more frequently measured as compared to the KRIs, which are measured usually monthly and quarterly time period. The KRIs are more relevant to display the overall organizational performance to the board, while the KPIs provide the performance measurement and they are reported to the chief executive officer and the senior management so that they can manage resources to improve the performance. The KRIs are the result of a series of actions, meanwhile the KPIs focus on a specific business process. The KRIs are the progress summary of a particular area, while the KPIs have a significant impact on more than one critical success factor and more than one balanced score card perspective. The KRIs are a measurement of past history activity. In comparison the KPIs can be past, present or

future oriented measurement, which can lead to real-time decision making. (Parmenter 2015, 15-16).

### **3.4 Key performance indicators**

“KPIs can be defined as the navigational tools that enable the management team of an organization to have a transparent image of the organization’s performance and they provide the ability to make real time decisions to improve performance or to reduce the upcoming negative consequences to the organization.” (Marr 2012, XXV.)

“Key performance indicators are those indicators that focus on the aspects of the organizational performance that are the most critical for the current and the future success of the organization.” (Parmenter 2015, 7.)

“Key performance indicators are quantifiable metrics, or measurements, that relate to specific success attributes that reflect the organization's performance.” (Pollock 2007)

“Key performance indicators are measures that a sector or an organization uses to define success and track progress in meeting its strategic goals”. (Rozner 2013, 3.)

From the above definitions, we can conclude that the relevant KPIs provide the critical information based on measurement of specific success attributes that directly affect the performance of the organization and provide the management a clear image of the company’s performance. The KPIs are not created in vacuum. The KPIs should be developed based on the critical success factors (CSFs) of the organization and provide value to decision makers and communicate the strategic objectives across the whole organization. Critical success factors (CSFs) are daily basis operational activities carried out well by the organizational personnel. The critical success factors are considered to be more fundamental than its strategy. (Parmenter 2015, 162.)

All performance measures are not KPIs and it’s often difficult to differentiate them. “A KPI is something that is compared and counted; it provides evidence of the degree to which an objective is being attained over specific time period.” (Intrafocus 2014, 3.) A KPI consists of a KPI rule or KPI formula that is used to count and compare the given substance and generates evidence, which must be clear and gives a specific meaning to indicate how far the objective of the KPI is being accomplished. The KPI has only significance if it is contributing to an objective or the KPI target. The KPI frequency determines the time period in which the established KPI will measure the specific performance. (Intrafocus 2014, 3.)

### 3.5 Characteristics of KPIs

Before implementing a KPI project, it is very important to define the characteristics of a KPI. Many organizations still don't make a difference between the KPIs and the KRIs, which result to the dark side of the KPIs leading to the negative effects of it. In figure 2, we can see the characteristics of a KPI that should be fulfilled by a measure to be a KPI.

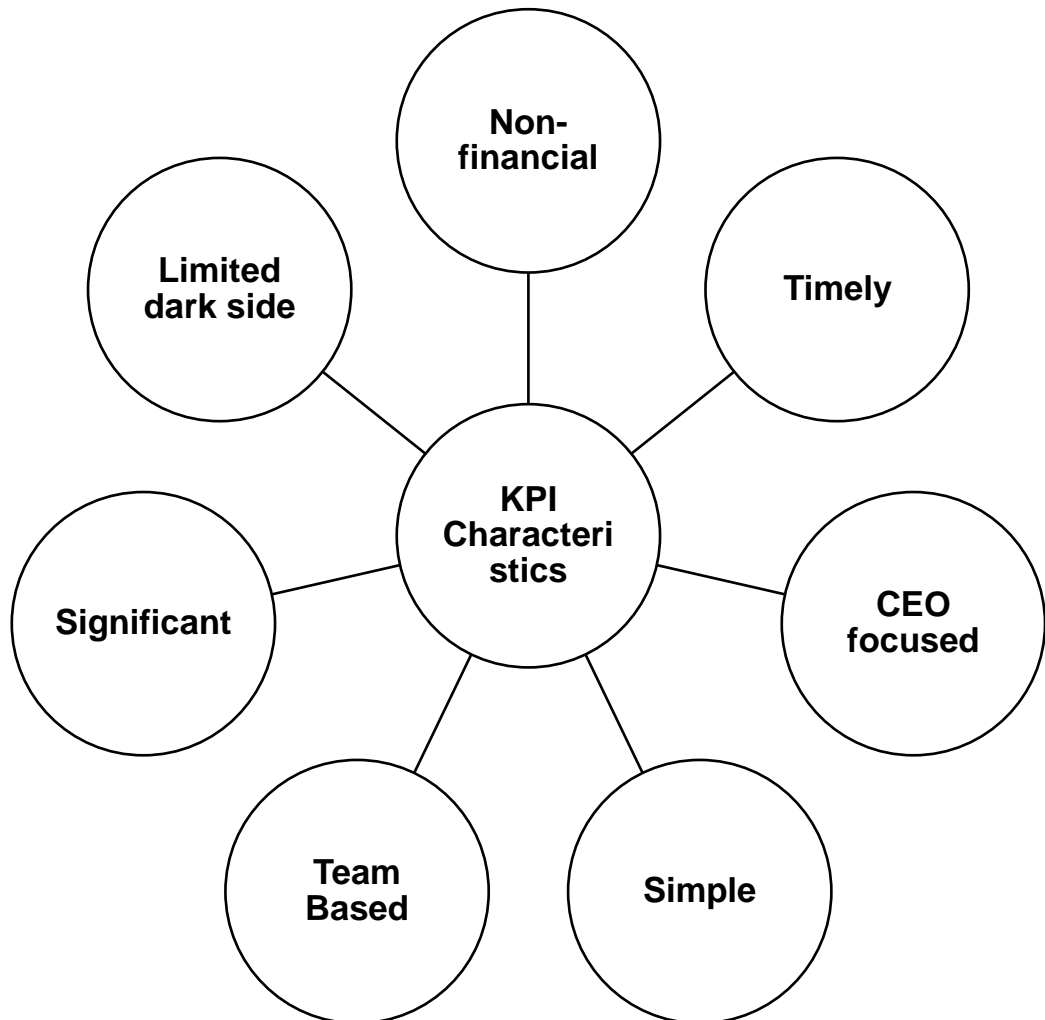


Figure 2 – Characteristics of KPI (Parmenter 2015, 11.)

To begin with characteristics of KPIs, a KPI is never a financial indicator as it will be considered as a KRI. The KPIs are more related to performance, which is an outcome of an action. The KPIs are dedicated towards the management of a company, which enable them to improve and allocate the resources according to the company's business strategy. (Parmenter 2015, 11.)

A KPI has a certain frequency of measurement. Depending on the importance of the KPI, it can be measured in different time periods i.e. it can be 24/7, weekly, monthly or yearly. This enriches the real time decision making power of the management team. It enables

them to act based on facts rather than educated guesses. It provides the management a transparent image of the organization and it enables them to improve the resource allocation and control any deviations that are being suffered by the organization's business strategy. A KPI should be reported directly to the CEO of the company for monitoring the organizational performance, so that he/she can intervene on the matters to keep aligned the company's resources to the strategic objectives of the organization. The CEO of the company is one of the most important channels that can push the KPIs to an organization. The KPIs should be simple and easily understandable, which can lead to an action that's needed by the organization personnel to stay aligned to the critical success factor of the organization. (Parmenter 2015, 11.)

A KPI should be relevant and consistent with the specific organization's vision, strategy and objectives. The KPIs should be focused on organization wide strategic values rather than non-critical local business outcomes. A wrong KPI selection can result in counterproductive behaviour and sub optimised outcomes. (Rozner 2013, 7.)

The KPIs ownership must be given to its corresponding frontline team, which will be accountable for it. The ownership gives transparency and confidence to the responsible teams which will boost up their performance and it keeps them engaged to the critical success factors of the business and also empowers the users to take real time decisions that what should be done if KPIs are going out established range. (Parmenter 2015, 11.)

The KPIs should be developed with an aim of measuring only what matters. A KPI influences the improvement of one or more critical success factors and more than one perspective of the balanced score card. The KPIs should always lead to a positive impact to the organizations performance. A minimum negative impact should be produced by a KPI on the organizations performance so before implementation it needs to go through testing and need to be refined if there are any unintended behavioural impact. (Parmenter 2015, 11.)

### **3.6 Misunderstanding about the KPIs**

Making KPIs to work in an intended manner for an organization is quite a challenging project. There are many misunderstandings about the KPIs. Not all the KPIs can lead to better performance; it is a wrong assumption that all the standard measures can work for every organization. The winning KPIs of an organization can be developed from the inside of the organization itself, as the KPIs are industry specific, area specific and organization specific. KPIs are non-financial indicators, therefore fixing end year targets and attaching financial rewards to a KPI can lead to underperformance. It can also result in manipulation

of the KPIs and converting them into key political indicators. It is a crucial decision to choose the development team, the worst that an organization can do is to outsource a KPI project to the consulting firm consultants who intend to provide the best solutions without actually knowing the business. It should be rather by an in-house grown team, which really knows the business. (Parmenter 2015, 30.)

### **3.7 Organizational benefits of KPIs**

There are numerous benefits that organizations can obtain from the KPIs. The KPIs enable an organization to align its resources to its business strategy leading to improved efficiency. The KPIs enable to create better measurement to enhance the organizational performance. The KPIs enable the management teams to improve the focus of the teams and provides direction towards the strategic goals of the organization. The KPIs provide a transparent image of the organization's performance and they enable the management team to take real time decisions. (Parmenter 2015, XV.) The accurate implementation of KPIs leads to reduction of costs, as the organizational processes can be run more efficiently focused to the strategic objectives of the organization. They also drive to process optimization and they enable to reduce the waste in the processes. The KPIs enhance the effective internal communication of the organization, which conveys to a better synergy between the internal company departments. These benefits lead to a significant competitive advantage of the organization and they can provide a more focused approach in business, so that organization focuses only on the critical success factors leading to organizational success in the long run. (Osisoft 2007, 3.)

### **3.8 KPI development frameworks**

For many organizations, the KPI project teams knowing, about the concept and the terminology about the organizational performance measurement, are still not capable to adept all the components in the absence of a KPI development framework. A KPI development is a model that enables the KPI development teams to an easier and faster implementation of the performance measures. The KPI frameworks consist of a set of practices and guidelines that can be adopted by a KPI team to develop with ease. It allows avoiding the common pitfalls. During the research, the author found two performance measurement frameworks based on the popularity of the frameworks and to the latest advances in the sector of KPIs. (Parmenter 2015, 101.; Kaplan & Norton 1996, 7.) Both of the KPI development methodologies have their own fame. The balanced score card (BSC) was a ground breaking theory in 1992 which brought a significant change in the organizational performance measurement. However, the winning KPI development methodology is



based on BSC but provides more specific methods to measure performance of organizational resources. (Parmenter 2015, 301-302.)

### 3.8.1 Balanced score card

“The Balanced score card (BSC) is a framework for strategic performance management that enables an organization to monitor its performance and align it to its business strategy” (Ray 2012, 16.) The balanced score card framework was first introduced in year 1992 as a research work at Harvard School of Business, Harvard University. The balanced score card framework was a ground breaking approach at that time as it moved the performance measurement to next level. It shifted the measurement from the financial measures, which were more relevant to industrial age and were outdated by current skills and competences that have laid foundation of operational measures giving the management ability to measure the performance of the organization. (Kaplan & Norton 1991, 2.) The balanced score card is a set of measures that give the managers a quick glance of their business. It gives a clear view not only from the financial perspective but also from three new perspectives of customer satisfaction, internal process and the organization’s improvement and innovation activities. (Kaplan & Norton 1991, 2.) Around 50% of large scale business firms utilize balanced score card framework (Ray 2012, 16.) In figure 3, we can see the four perspectives that provide the framework to the Balanced score card.

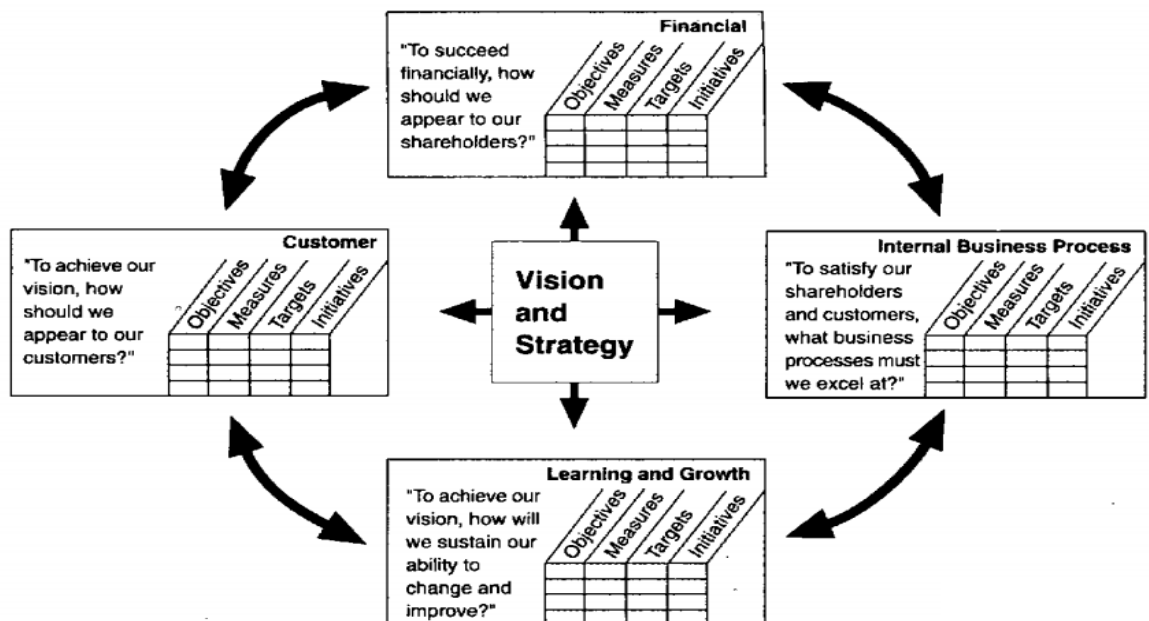


Figure 3 – BSC provides a framework to translate a Strategy into operational terms (Kaplan & Norton 1996, 9.)

The collision in between the irresistible force to build long-range competitive capabilities and immovable object of the historical-cost financial accounting model has created a new synthesis: the balanced score. (Kaplan & Norton 1996, 7.) The balanced score card com-

plements the traditional financial measures. The traditional financial model was based on the past events, therefore the data was appropriate for the industrial age companies, but as the time changed and companies moved from industrial sector to service sector the resource management changed completely and the traditional financial model was not covering all the perspectives of an organization. The organizations need to invest in their customers, employees, processes, technology and innovation in order to succeed in the current age of information and create future economic value. The balanced score cards complement the past financial measures with measures of drivers of the future performance. (Kaplan & Norton 1996, 8.)

The objectives and measures of an organization are derived from its vision and business strategy. The objectives and the measures are based on the four perspectives of the organization, which can be seen above in figure 3, they are financial, customer, internal business process and learning and growth. (Kaplan & Norton 1996, 9) This enabled the organizations management to measure the unit objectives and to align them to the strategic objectives of the organization. (Kaplan & Norton 1996, 8.)

### **3.8.1.1 The four perspectives of balanced score card approach**

In the BSC approach, a perspective can be defined as an important focus area that critically affects the performance results of the organization. In the BSC approach, there are four perspectives which are financial perspective, customer perspective, internal business process perspective and learning & growth perspective. These perspectives represent the strategy of an organization and the performance measures must be developed to improve these perspectives.

The financial perspective was kept in the balanced score card because financial measures are valuable and summarize the readily economic results of actions already taken by the organization to improve its performance. Financial performance measures indicate whether the company's strategy, implementation and execution are contributing to the bottom line improvement. The financial objectives correspond to the profitability of the organization's business. (Kaplan & Norton 1996, 25.)

In the customer perspective of the balanced score card, the management team identifies their customer segments and the market segments in which the organization's business unit competes. It also identifies the measures of the business unit's performance in these targeted areas. (Kaplan & Norton 1996, 26.) The customer perspective focuses on measuring the customer profitability, customer satisfaction, customer retention and market

share in the desired segments. This perspective focuses on how the customers stay engaged constantly to the organization and how to gain customer loyalty for the long run. It enables the business owners or managers to satisfy the customer requirements more relevantly and obtain outstanding financial results for the organization. (Kaplan & Norton 1996, 26.)

The internal business processes perspective was included because of the continuous business process optimization. The executives need to identify the critical internal processes that add the most value to their business. They need to be optimized to deliver better business outcomes, which will deliver the value proposition to obtain new customers and retain the previous customers, and simultaneously satisfying the shareholder expectations of great financial results. The internal process perspective has the biggest impact on the customer satisfaction and to achieve an organization's financial objectives. (Kaplan & Norton 1996, 26.)

The difference between the traditional financial approach and the balanced score card approach was that the traditional financial approach was based on the past data and enables the optimization of the existing processes. However, the balanced score card approach focused on determining the new processes that need to excel to meet the customers satisfaction and the financial objectives. The balanced score card approach also intends to integrate the innovation process of the existing processes. (Kaplan & Norton 1996, 27.) In figure 4, we can see how the internal business process value chain leads from the customer need to customer satisfaction.

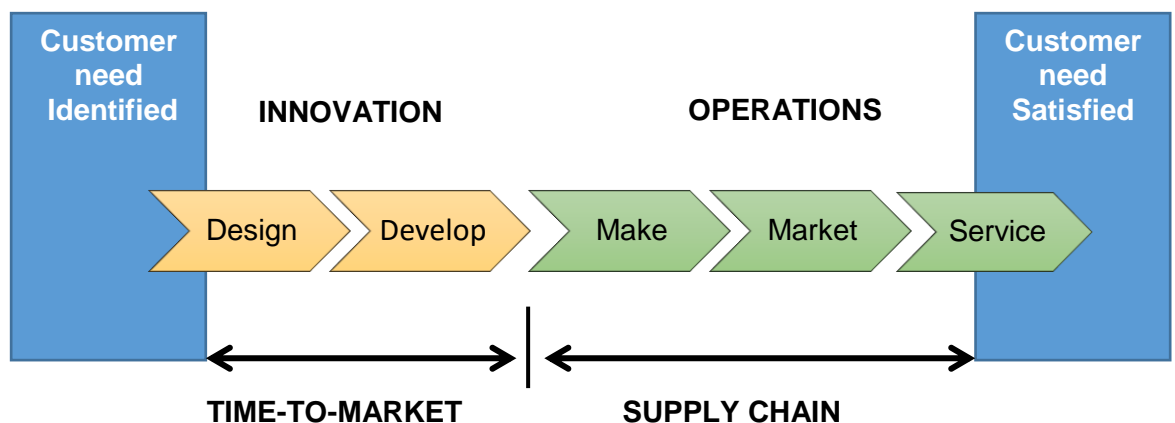


Figure 4 – The internal business process value chain perspective (Kaplan & Norton 1996, 27.)

The traditional performance measurement systems focus on the process of delivering the present products to the present customers. Hence, they attempt to improve current internal business processes. This leads to creation of a short value chain that starts with the

reception of the purchase order and ends with the delivery of the product. The organization generates value from producing, delivering and servicing the product to the customer at a cost below its sales price. (Kaplan & Norton 1996, 27.) The long term business process value chain can only be created by satisfying the emerging needs of the current and future customers. (Kaplan & Norton 1996, 27.)

The learning and growth perspective was included to keep the organization up to date and to respond to new market opportunities. As the business is going on with time, the market brings new challenges to the organizations to satisfy and remain relevant to the customers continuously. The learning and growth perspectives focus to determine the infrastructure that the organization need to create for the continuous growth and improvement. (Kaplan & Norton 1996, 28.) The three principal sources of this perspective are the people, systems and the organizational procedures. The financial, customer and internal business process perspectives will enable the organization to determine the current capability gaps between the people, the systems and business organizational procedures that the organization has at the moment to deliver value to the customer and to the shareholders. Learning and growth perspective enables the organization to fulfil these capability gaps by re-skilling the people, enhancing better systems and aligning the business processes to the strategic objectives. (Kaplan & Norton 1996, 28.)

The combination of these perspectives, the balanced score card allowed organizations to interpret their vision and strategy as objectives and measures across a balanced set of perspective. The development of the measures of the desired results as well as for the processes, enables the organizations to drive the desired outcomes for the future. (Kaplan & Norton 1996, 28.) The organizations that are able to interpret their strategy map into measurement systems are much more efficient to execute their strategy. As such organizations are able to communicate between their objectives and targets, which enable the company managers and employees to focus on the critical success drivers to align the company resources in the direction to obtain the strategic objectives successfully. (Norton & Kaplan 1996, 147.) From above, we can conclude that a successful balanced score card is the one that communicates through the financial and non-financial measures to the global organizational strategy that will lead the company to accomplish its strategic objectives. (Kaplan & Norton 1996, 147.)

### 3.8.2 Winning KPIs approach

The winning KPIs approach, by David Parmenter, was based on the balanced score card approach, but it differentiates in the implementation of the KPIs that are more specifically derived to measure the performance of an organization. (Parmenter 2015, 300.) The winning KPIs are defined based on the critical success factors of a business on daily routine tasks. So it's crucial to determine the critical success factors before initiating the implementation process of the KPIs. All measures are not KPIs, either they are result indicators (RIs), performance indicators (PIs), key result indicators (KRIs) or KPIs, and all KPIs are non-financial. A KPI team can find an organization's critical success factors through mapping out the relationships with the organizations success factors and then choosing the most important one that is related to the higher number of other success factors. (Parmenter 2015, 300). In winning KPIs approach, introduced two new perspectives of "Environment management and community" and "employee satisfaction" and modified the "Innovation and learning" to "Learning and growth". In winning KPIs approach, critical success factors and KPIs must be affecting more than one perspective in the BSC. This methodology encourages that the critical success factors and KPIs development should be built by in-house member teams although the process can be guided by an external facilitator. (Parmenter 2015, 301.) In figure 5, we can see how the stages and the foundation stones are interconnected to develop and implement the KPIs in an organization.

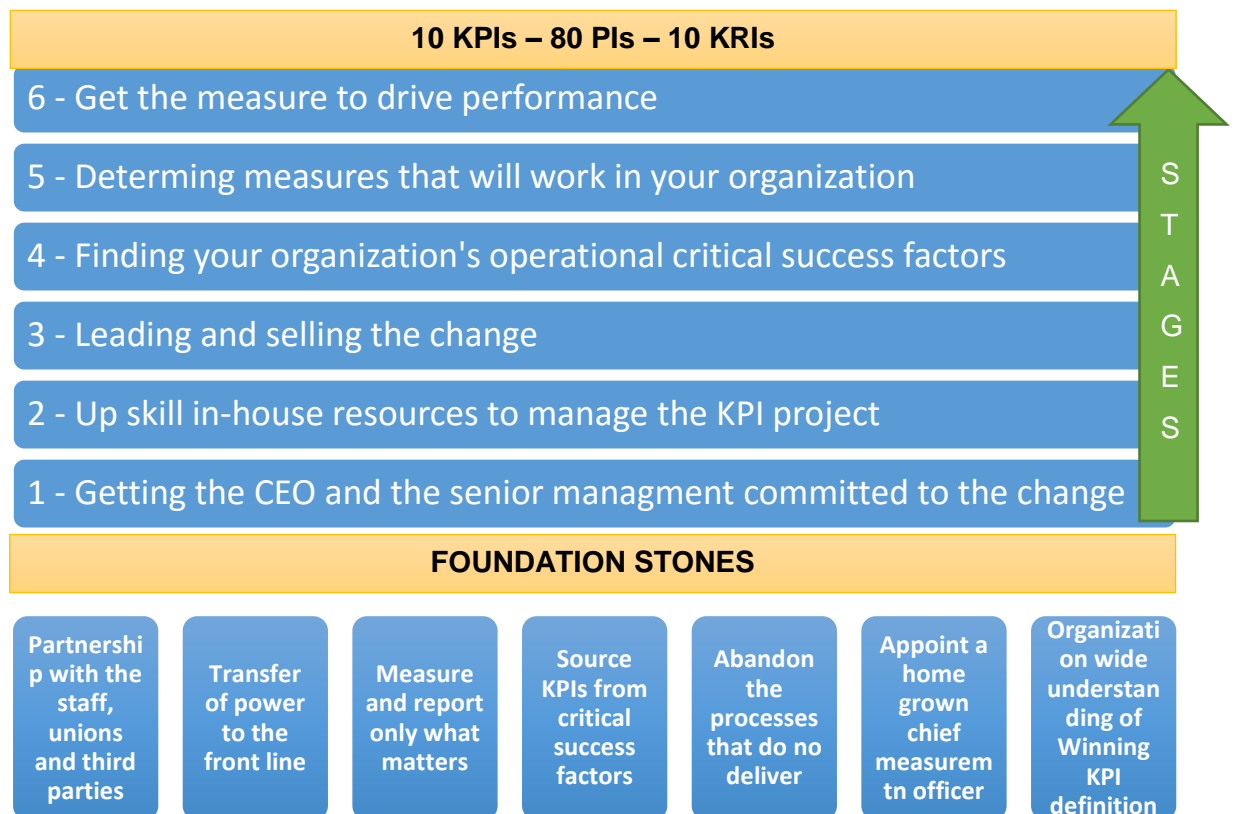


Figure 5 – The Winning KPI framework (Parmenter 2015, 108.)

### **3.8.2.1 Winning KPIs development foundation stones**

The foundation stones in Winning KPIs approach are the base that must be established by the KPIs development teams before introducing the KPIs in a company. It allows to explore and to determine the most relevant KPIs for the organization and also enables them to minimize the dark side of KPIs and drive more performance through them. The organization should follow the rule of 10/80/10, which means that up to ten key result indicators should be adequate to demonstrate the organisation status to the board; eighty performance indicators are sufficient for an organization that can be used among different teams. And ten KPIs should be adequate for an organization's management to drive the organizational performance, but the number can be extended up to twenty. The higher the number of KPIs less focus the organization will have. (Parmenter 2007, 98.)

The first foundation stone that the KPI development team needs to lay down is of establishing the direct relationship with the relevant stakeholders. The successful relationships with the people who are most relevantly affected by the KPIs will lead to the development of successful and organizationally healthy KPIs. The critical change that KPIs will bring to the organization requires to be mutually understood and accepted the need of the change. (Parmenter 2015, 110.)

KPIs must not be developed in the vacuum. KPIs are developed to improve people's performance; hence the empowerment of the relevant operational staff is a crucial factor for a successful performance improvement. The operational level staff should have the power of decision making, as this increases their confidence and the sense of responsibility among them. (Parmenter 2015, 110.) There should be two way effective communication i.e. top-bottom and from bottom-top for a clear understanding of the KPIs definition and their organizational importance among the staff. If there is any negative effect on KPIs the operators should be empowered to take actions for its correction. For more accurate operational decisions, the teams can develop and select their own performance measures. If any staff member is not capable of grasping the concept or are slow learners the staff should be provided with an appropriate education. The staff should be trained and prepared to the empowerment of decision making based on the KPIs regarding their crucial success factor. The staff should be acquainted to agile and lean methodologies so that they can adapt to the situations flexibly with least efforts for the change. (Parmenter 2015, 110.)

An organization should only develop those measures that will enhance its performance, rather than making measures that are resource consuming and overwhelming the effi-

ciency of managers and employees. It is a key point for success that management develops a framework that the KPIs when reported result into action. Therefore, it is important to set a frequent reporting period for a KPI i.e. 24/7, weekly or monthly depending on each KPI. The organization should measure only what delivers/triggers. It is necessary to eliminate “waste” (Toyota management principle no2.). For example, the ineffective reports, measures that are not delivering anything should be abandoned. Every KPI should lead to an action and provide a lean reporting nature providing the managers the organizational performance status at a quick glance. The performance should be measured at team level from the bottom to the upside. (Parmenter 2015, 111-112.)

The KPIs must be developed based on the critical success factors of an organization that bring the most value to its business. Critical success factors are the factors that affect 24/7 an organization which lead to its success of which is a clear indication that if an organization need to succeed, the KPIs have to be founded based on the CSFs, not based on the gut feeling of the stakeholders. The CSFs are more important than the strategic initiatives. The CSFs are fundamental to the success of an organization. The measures should act as an enhancement to enable the staff to focus on the CSFs of the business on a daily basis. Before any measure is found, it is crucial to track the relevant CSF as its base and then measures should be linked to the CSFs. (Parmenter 2015, 114.)

The principle of “Abandonment is fountain of innovation”. Abandonment is not failure rather it’s an accurate decision that management should make for the activities that are not delivery or will never work out and allocate the resources to another value generating activity. The earlier the unproductive activity is abandoned, the lower it costs to the organization. (Parmenter 2015, 114.)

“No one knows your business better than you” a proverb from ancient Asian culture. Another foundation stone described by Parmenter (2015, 116) is that it is crucial to higher the KPI team and it should be in house grown team as they are more experienced in the organization than anyone new who will be taking charging and start developing KPIs without knowing about the business itself. This may lead to a huge gap in between the actual business and the understanding of the external KPI project team. Hence the KPI team is in house grown team. There is always a need of a leader to the KPI team that can be entitled as the Chief Measurement Officer (CMO), who has an equal position to a CIO or a CFO. (Spitzer 2007, 102.) The attributes of CMO should be partly a physiologist, teacher, salesman and a project manager (Parmenter 2015, 117.)

A clear definition of each KPI must be conveyed organization wide, which is crucial for accurate functioning of the KPIs, otherwise KPIs will not result as intended in such an environment. The staff should be able to easily understand that what is the KPI and what is not a KPI. The CEO and the senior management play a crucial role in communicating the right definition, the purpose and the results of the established KPIs. (Parmenter 2015, 118.)

### 3.8.2.2 Six stage winning KPI development Process

The former approach had 12 steps process and a time-frame of 16 weeks, but in 2015 Parmenter reduced this approach to 6 stage approach with a time frame of 6 weeks which, formed a faster and easier iteration process to develop the KPIs for the organizations. (Parmenter 2015, 102.) This process includes from the commitment of the CEO and senior management of the company to open and adopt the change for the organizational performance improvement and the refining of KPIs to maintain their relevance to the organization. Figure 6 – Represents the six stage Winning KPI development process.

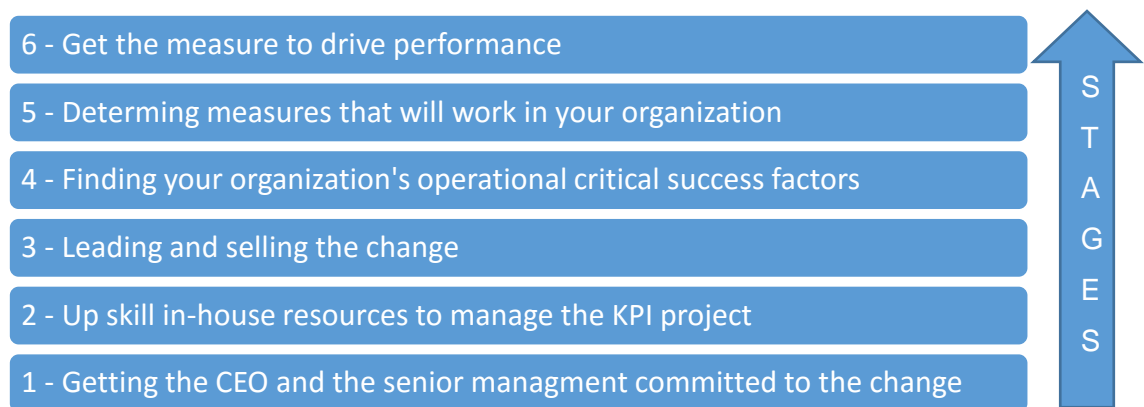


Figure 6 – Six stage development process for the Winning KPIs (Parmenter 2015, 108.)

To drive a new organizational change, the CEO and the senior management are the crucial change drivers and they must be committed to the change. Before initiating a KPI project it is very important to have the commitment of the CEO and the senior management to actively participate in the project. Often it is hard to convince them, it can be helpful to hire an external communication facilitator who can convey the importance of the KPIs to change the organizational culture. (Parmenter 2015, 122.) Once the senior management is on board committed to the change, the KPI project will improve the understanding of their operations. Then it would be easier to develop the organization strategy and link it to the day to day activities in order to accomplish their strategic objectives and to obtain the expected results. (Parmenter 2015, 121-132.)



Most of the organizations, when initiating their KPI projects quite often tend to make decision to contract external consultants for the development. The external consultants will start by implementing the generic industry KPIs which might provide good results but not the best. Each organization needs to develop its KPIs based on its critical success factors, which are understood much better by the organization's internal staff as compared to the external consultants. So there is need that the measurement should be led by the in-house staff that can take a consultative approach to enable the coordination between the senior management and the staff. This will enable the organization to achieve the behavioural alignment to the organization's critical success factors and strategic objectives. (Parmenter 2015, 134.)

In order to lead the KPIs projects there is a strong need of home grown KPI leader, rather than an external consultant as this gives confidence to the staff and enhances the progress of the KPI projects. The chief measurement officer (CMO) is an executive role that coordinates KPIs projects. The CMO has a thorough understanding of the organization's business and has the direct communication to the senior management and the CEO of the company. (Spitzer 2007, 102.) A CMO must have the simultaneously capabilities of psychologist, salesman, teacher and a project manager to minimize the negative effects of KPIs on the staff performance during the implementation. (Parmenter 2015, 135.) In figure 7, we can see reporting linkage of the KPI development teams with the CEO, the senior management team and the interested stakeholders.

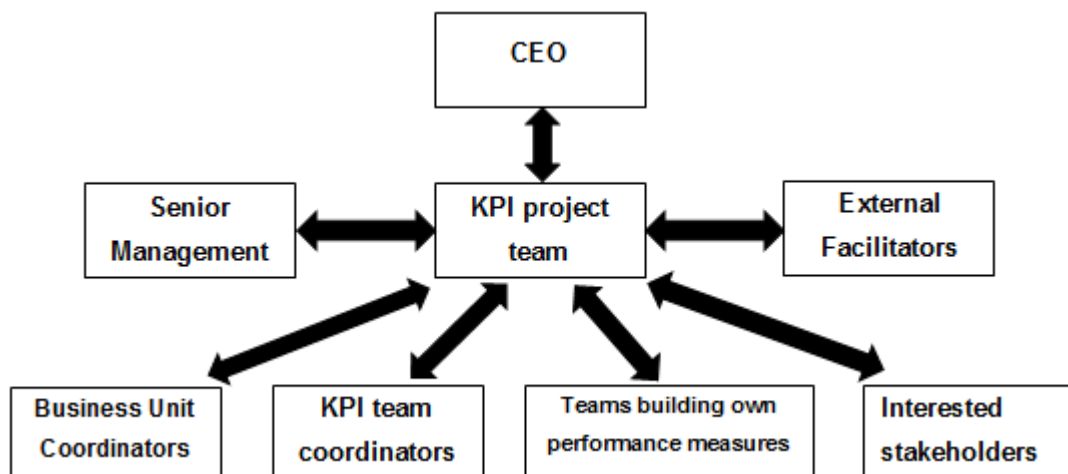


Figure 7 – The KPI team's reporting lines (Parmenter 2015, 135)

The project team needs to report directly to the CEO, there should not be any intermediate barrier in between them. The KPI project team must have excellent presentation and communication skills, knowledge about the organization and the sector and ability to drive others to bring the change. The team should be an optimum mix of old experienced people of the organization and new young professionals, which will bring the experience and

latest trends together. The team can consult the external facilitators promote the change in the organization at the departmental level, staff member with deep knowledge of the business unit process should be assigned to link to the KPI team. The interested stake holders can interact to provide the maximum value to KPIs from their perspective. (Parmenter 2015, 134 – 137).

Leading the transformational changes in an organization is not ingenuous, but to keep the pace with today's challenging market, it demands continuous innovation in the organizations management and processes. KPIs establishment in an organization is another challenging transformation that companies face. So it is important for the KPI project to sell the change that will be brought by the project. (Parmenter 2015, 146 – 147.) In figure 8, we can see the steps that an organization can follow to lead the transformational change in an organization.



Figure 8 – Eight steps to transforming an organization (Kotter 1995, 61.)

Before initiating the KPI project, the KPI project team has to emphasize the urgent need of its implementation to the CEO and the senior management as well as the changes that it will bring to the organization. The KPI project team need to collaborate with the influential experienced staff that represent their section and can promote the changes throughout the business unit. The KPI project team will need to demonstrate the vision associated to

the project about the result changes as outcome of the project are related to the strategic objectives of the organization. To adapt to the change, the staff need to absorb the positive value of the change, KPI project team's vital tools are an effective communication and training of the staff that conveys the right definition of the change and promotes more commitment. The relevant teams must be handed with the right of change in the organization as it's the team that will be utilizing the KPI to improve their performance. The Planning and the creation of short term wins need to be elaborated as this will bring positivity among the staff and more commitment to the KPI project. Improvement consolidation by using increased credibility to change systems, structures and hiring capable staff to drive the change and continuous improvement projects will bring an incremental change. Organizations should be open to new change implementation approaches that enhance the transformational changes throughout the organization without creating negative consequences in the organization. (Parmenter 2015, 145 – 159; Kotter 1995, 61.)

KPIs of an organization must be based on its critical success factors (CSFs). Critical success factors (CSFs) are the daily basis operational activities that need to be carried out well by the organization's personnel to reach the strategic objectives of an organization. The critical success factors are considered to be more fundamental than its strategy (Parmenter 2015, 162.) The relationship between the KPIs and the operational critical success factors is vital. So it's crucial to ascertain the operational critical success factors of an organization to develop winning KPIs. (Parmenter 2015, 165.) In figure 9, we can see how the critical success factors enable the organization to keep aligned to its strategic objectives.

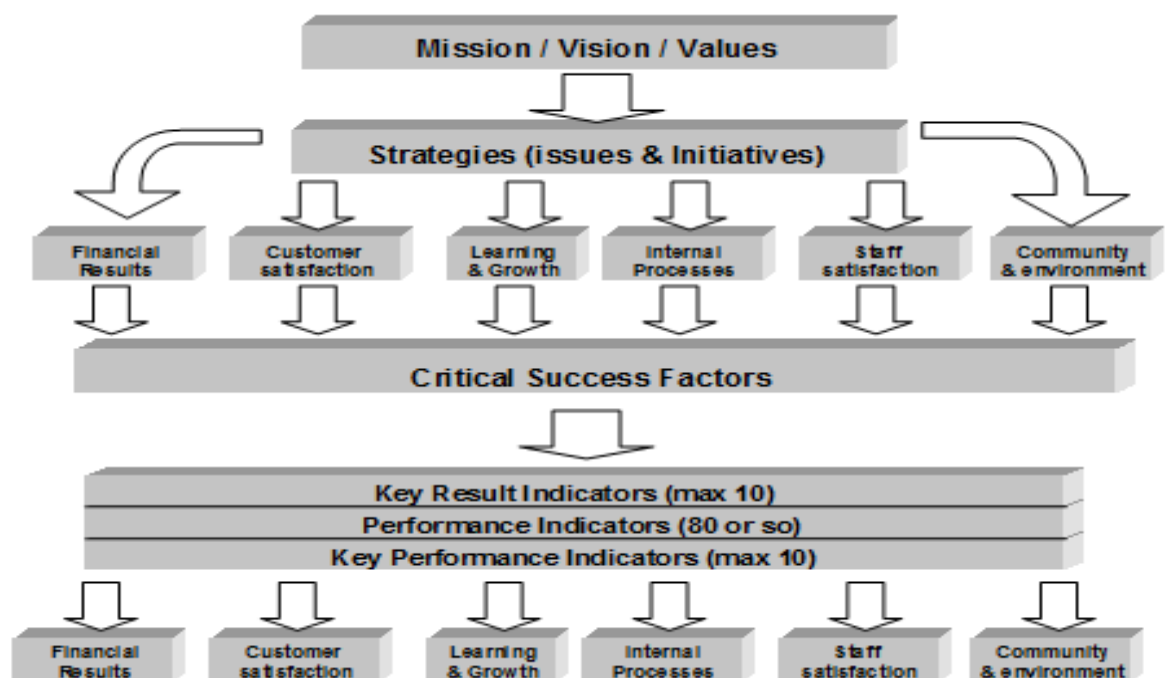


Figure 9 – Operational critical success factors drive the performance measures (Parmenter 2015, 165.)

An organization's CSFs should be limited, five to eight in number, and must be of one set that align to the strategic objectives. Each organization has unique CSFs due to its temporary business environment conditions that lead to success. The traditional balanced score (BSC) approach measures to monitor the implementation of measures are cascaded from top-level organization, which often can create a complex structure for the staff because many measures are monitored at the same time, which leads to blurred meaning. (Parmenter 2015, 165 – 169.)

The CSFs must be accurately worded to spread the meaningful importance of its existence throughout the organization, without originating any surprises to the management and the staff. CSFs must be kept to organizational relevance rather than breaking to the department level and should apply to more than one balanced score card perspectives. They should be based around approach of specific, measurable, achievable, relevant and time sensitive; and emphasize on a precise operational activity. (Parmenter 2015, 170.) The CSF determination enables the senior management and the staff to concentrate on finding the most relevant KPIs that will drive the real difference in the performance of the organization. ( Parmenter 2015, 187.)

Organizations need to determine the measures that will work for the organization to drive performance with minimum negative effects among the staff and have a profound impact on the organization. The organization will have big number of obvious measures but it would need to separate the KPIs from the rest. The measure must be named accurately and determine how it is measured, it must also be recorded in organizational performance database. The accurate KPIs will improve the staff environment quality and satisfaction, and empower the front line to take decisions. (Parmenter 2015, 189 – 208.)

The final stage is to develop the reporting frameworks to drive performance with developed KPIs. The reporting framework should be developed throughout all the organizational levels. The reporting frameworks must be developed with appropriate training on reporting for each business unit and meaningful graphs must be established to understand the KPIs with a minimum effort. The reporting must be developed under hierarchy of reports to staff, senior management and the board. (Parmenter 2015, 209 – 212.) By the time is passing the KPIs need to be refined to maintain their relevance to the organizations strategic objectives. The front line teams must continuously review their KPIs and abandon the ones that are not delivering anymore or they have become irrelevant to their daily activities. Teams will also need to develop new measures to respond to the new originating CSFs. (Parmenter 20115, 217.)

## **4 Empirical part**

The theoretical background of the research covered the concept of the KPIs with their importance for an organization's performance improvement and the development frameworks that are being used by different organizations to develop their KPIs. The theoretical background will serve as the base of development of the empirical research. The empirical research will cover the business case background, objectives and the research process roadmap. The latter part will cover the KPI framework selection rationale and then research for optimal KPIs for case company X will be conducted under the selected framework. In the end of this chapter, empirical research summary will be covered.

### **4.1 Business case background**

The case company X is a Finnish start-up company that develops smart consumer electronics and have successfully made its customers across the globe. The case company X has a unique business model of community driven device development, which enabled the company to differentiate itself in the consumer electronics market. The community driven development consists of developing hardware devices based on the concept of harvesting the hardware requirements and the implementation decisions from the end customers. The community driven development concept has been popular in software industries from decades and the case company X has accomplished the similar concept in the consumer electronics industry.

The case company X at the beginning consisted of a small team, but after its successful launch in Finland, the company started expanding its business to other countries. This contributed to the growth of the staff and the sophistication of the business processes. The company's management fundamentals are based on the lean management methodology which promotes the continuous innovation and process waste minimization daily basis. The company's objective is to deliver its promise to the customers in the most efficient way i.e. reducing time and cost in the end products. The senior management is aware that in order to accomplish the lean production objectives, the company needs to keep aligned its resources to its business strategy to achieve the desired results. For that the company continuously need to measure its performance to optimize their processes and enhance quick decision making capabilities.

So in order to keep track of the company's performance, the senior management considers that at this scaling phase, it's crucial to get acquainted and introduce organizational performance measures. The adoption of an optimum key performance indicators devel-

opment framework, which would serve the company to develop and introduce future KPIs to keep aligned to its business strategy.

## 4.2 Research roadmap

The main objectives of this research are to recommend the KPI development framework for the case company X and recommend optimum KPIs with for the current business environment. The research will have two phases, the first one will be the qualitative research in which the author will organize a workshop and will interview the company's management to introduce the project and analyse the core business activities where KPIs are needed. In the second phase, the author will test the selected framework for developing the KPIs. In figure 10, we can see the research milestones that will be accomplished to establish KPIs.

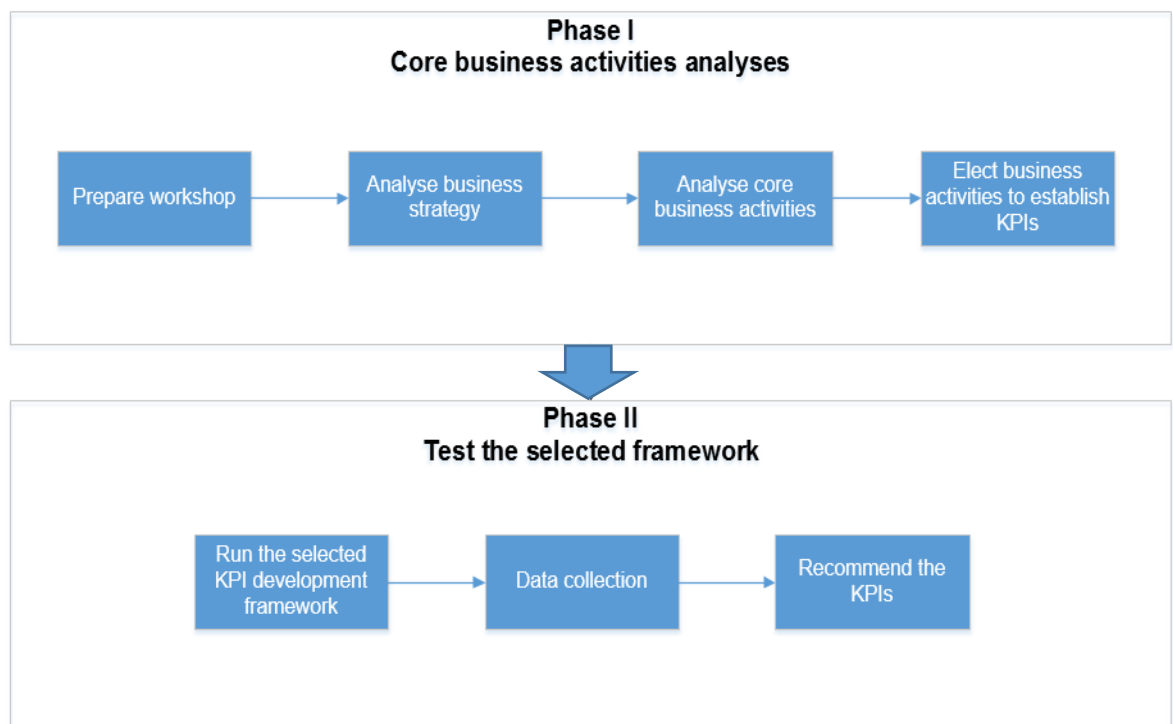


Figure 10 – Research roadmap

Author will introduce the company with concept of organizational performance measurement and the concept KPIs. The first phase includes the project introduction to the case company and the author will analyse the business strategy and the core business activities of the case company. Based on this, the author together with the senior management have selected the business activities that need the KPIs to be established according to the current business needs and can be used to test the development framework. In the second phase, the author tested the KPI development framework and collected the data, based on which the first version of the recommended KPIs were delivered to the case company.

### **4.3 Research design and work methodology**

According to the research questions and the objectives, in figure 10, we can observe that there are two phases that includes the core business activities analysis and the testing of the selected framework.

For the first phase, the author interviewed the COO of the case company to get acknowledged about the company's business strategy and the company's core business processes. The interview questionnaire is attached as appendix 1 to this thesis.

For second phase, the author has chosen the Winning KPIs development framework by David Parmenter. It was very challenging to differentiate and to choose an accurate model between the balanced score card and winning key performance indicators framework, as both emphasize on resource alignment to the business strategy in a balanced order. But with the current research understanding and knowledge, the author chose the winning key performance indicator framework over balanced score card framework for the following reasons. The winning key performance indicators framework is a more precise method to measure the performance of an organization. It differentiates between the KRIs and KPIs, although both are measures, but KPIs are more accurately related to the organization's performance which enables the management to focus to improve the performance of the company. In the winning key performance indicators framework, the KPIs are harvested based on critical success factors of the company, in other words measuring what the organization is really good at. The winning key performance indicator framework determines clearly the characteristics of the KPIs. It results to an action for decision making to keep the operational activities aligned to the strategic objectives of the organization. The implementation and development of KPIs under winning key performance indicators framework have a comprehensive, fast and easy six stage approach for the establishment of the KPIs. (Parmenter 2015, 299 – 305.)

The empirical part implementation includes the research process and organization of the workshop to develop the KPIs together with the management. The empirical part was initiated on 01.10.2015 and ended on 09.11.2015.

#### **4.3.1 Phase I – Business strategy and core business process analysis**

The business strategy of a company can be defined as a plan of actions that an organization executes to obtain its desired results. The organization strategy has to be clearly defined and all the business processes must support the same direction.

#### 4.3.1.1 Business strategy

The company X was founded with a noble mission to provide fashionable and high value technology to its customers at a competitive pricing. In the current consumer electronics market, there is a huge variety of smart devices that are being introduced with unnecessary features and unreasonable pricing. Such devices are developed by engineering teams with minimal understanding of value proposition to the end customer. From this we can conclude that there is a huge gap between the end customer and the technology. The company X considered this gap as a great business opportunity. The company X strategic objective is to become the portal to bring the technology and its customers as close as possible.

#### 4.3.1.2 Core business values

In order to accomplish its mission, the company X has specifically adopted its core values of community driven development, high quality product, universal empathy, minimalistic design and offering a competitive price. In figure 11, we can see the core values of the company X.

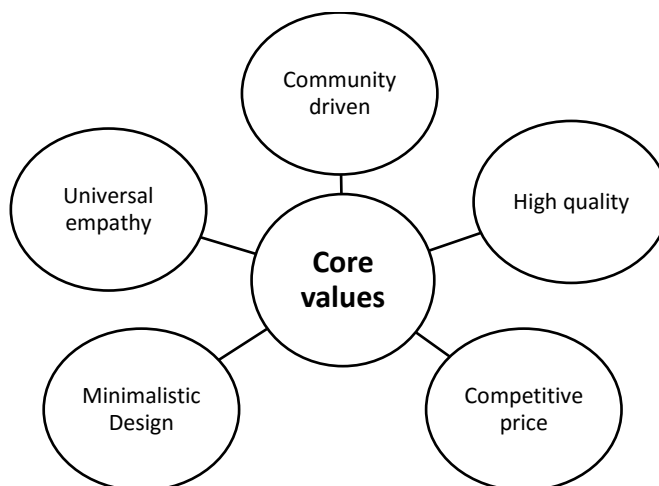


Figure 11 – Company X core values

The community driven development is the core value to cover the gap between the consumer and the manufacturers. The company X is the portal for its customers where they can provide their technological necessities and ideas to develop high quality devices. These ideas enable the company X to gather the demand of the market and fulfil it. The community driven development supports the other core values of design and high quality components production. The company X follows the lean company management methodology which enables the company to have minimum operational costs and lead a competitive price production.



The minimalistic product design consists of designing the products and to add only those features that have an added value for the end customer. The minimalistic product design reduces the extra costs significantly, but retains the high value in the product as customers never use such features. The company's objective is to bring the latest the technology features in their products but not based on the fact of being new, rather on evaluation with its community if it would generate value for them or not. The customer community is the one that will make decision about the needed features in the devices.

As being from Finland, the company wants to keep the same quality culture for which the Finnish products are well known globally. The high quality is the core value as the end product delivers the real value proposition to the end-customer. The product development has its main objective to produce life-long products. The optimum components are chosen for the production with a perfect relation to price and quality. And as always the end-consumer value proposition is considered before any component selection. The company provides production costs of products with various quality components to community. Based on the community's evaluation for quality and price, the company gathers the components for the final production.

The good quality technology is not expensive to produce, but still a lot companies follow the long traditional supply chain model. The traditional supply chain model results in unreasonable pricing in the consumer electronics. The company's objective is to produce devices at a price what they really worth. The company follows the lean management methodology that aims to reduce unnecessary company costs and provides a sustainable income to the case company X. With the lean management principles, the company has achieved to establish a very lean supply chain model by cutting down all the unnecessary intermediaries and have reduced the distance between the customer and the manufacturer to the minimum. The business-to-customer distribution (B2C) model also provides company a competitive advantage over the traditional distribution models as this reduces logistics costs and enable to interact directly with its customers.

The universal empathy takes the company as close as possible to its customers. For the customer service, the company's principle is "Treat others same as you would like them to treat you". The company has an anti-corporate culture. It has a friend culture between it and its customers. The company intends to avoid all the actions that might create a distance between the company and the customer so the company continuously interacts with its customers via communication mediums to keep them engaged.

#### 4.3.1.3 Key success factors

The key success factors of an organization are the factors that makes the organization enables to reach to its success. The key success factors are the actions that the enables the company to achieve its targets. The figure 12 shows the key success factors of the case company X.

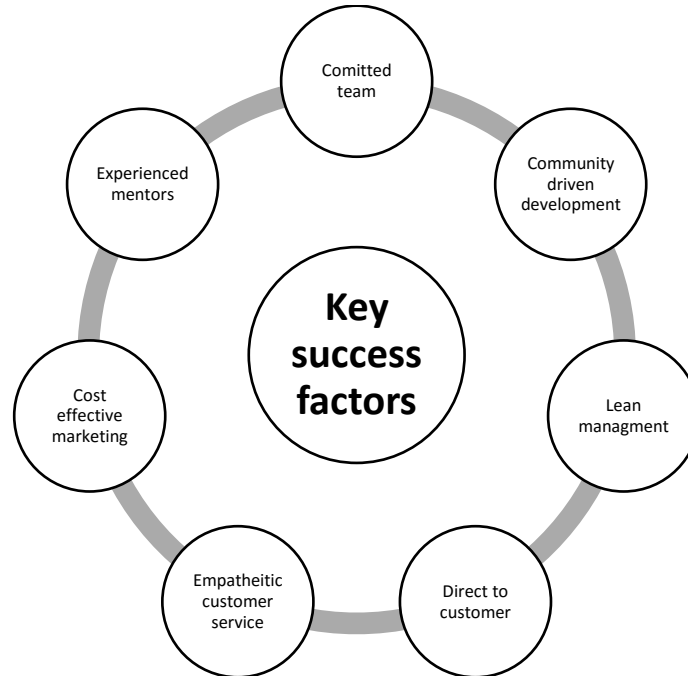


Figure 12 – Key success factors

The company is formed by a team of highly committed team of professionals who are passionate about their work and are highly motivated to make the change in the consumer hardware development industry. The company's team is the most valuable resource of the company. The team has very international cultural background that brings different cultural values to the company. This provided the company a very dynamic environmental and skill to cooperate with different stakeholders throughout the globe.

The community driven development gave the transparency to the customers and gained their strong trust and commitment to the company. The Customers' inclusion and interaction gave us the opportunity to develop new products based on their needs and their creativity. The community driven development has its own beauty of bringing people from various background together and utilize their collaborative effort and knowledge for generating high economic value for the company. The company was able to leverage its community to generate a knowledge base and the community members helping each other converted as self-service customer service. This reduced company's research and customer service expenditures.

The lean management has given company another advantage in its operational side. The company operates with minimum intermediate transitions. On the production side, the company works directly with the production houses and is able to obtain the most competitive prices. On the front-end customer side, the company has business to customer distribution model which enables the company to interact directly with its customer and is able to provide a smooth customer experience in its product and service delivery. This kept distribution costs lower as compared to the traditional consumer electronics company.

The company treats its customer based on the principle of “Treat others same as you would like them to treat you”. The company aims to deliver a friendly and minimum-redirected customer service. The company intends to deliver the solutions at minimum times possible without their customers suffering in the hierarchical loops as in other big electronics companies. The community has proved very powerful and effective problem solving source in customer support which solved questions with the collaboration of the members of the community together.

Even in the presence of modern mediums of communication, a lot of companies spend their valuable resources in traditional marketing channels. But the company X masterly used the online channels of marketing of social media websites i.e. Facebook enabled the company to rise its exposure and build the community. In a very short period of time the company managed to build a community base of more than 30,000 users. The social media marketing proved very effective in engaging the target audience. The social media also provided the opportunity to interact with its community and customers in a user very friendly way. As in technology sector, the company approached to the technology magazines that provided visibility and high quality feedback from the experienced professional reviewers. A part, the company has personally attended and participated in numerous public events which raised its visibility and increased the network.

Due to the unique business model, a huge number of high ranked professionals showed high interest and joined the company’s mission. The company managed to attract high profile executives from giant tech companies who provided us counselling with their valuable business experience and knowledge that they have obtained in their career. The mentors introduced will potential risks and pitfalls in advance and proposed countermeasures which have potentially saved a lot of company’s resources.

Based on the collected data through the interview, in figure 13 we can see the SWOT analysis of the case company.

Strengths	Weaknesses
<ol style="list-style-type: none"> <li>1. Community driven development business model</li> <li>2. Experienced mentors portfolio</li> <li>3. Strategic partnerships</li> <li>4. Lean production chain</li> <li>5. Cost effective marketing</li> <li>6. Empathetic customer service</li> <li>7. Cross-functional international team</li> <li>8. High quality standards</li> </ol>	<ol style="list-style-type: none"> <li>1. Little market exposure</li> <li>2. Small team which can delay business expansion</li> <li>3. Low financial budgets</li> <li>4. Slow production cycle</li> </ol>
Opportunities	Threats
<ol style="list-style-type: none"> <li>1. Customer to manufacturer platform</li> <li>2. Competitors inflexible business structure</li> <li>3. Focus on Microsoft windows devices</li> </ol>	<ol style="list-style-type: none"> <li>1. Bigger competitor can try copy the business model</li> <li>2. New technologies appearance during development phase</li> </ol>

Figure 13 – SWOT analyses of company X’s business.

From the SWOT analysis, we can observe that company X has a huge business opportunity that the company can pivot in the long run to act as a bridge in between the end customers and the technology. The figure 14 shows company x as a technology portal.

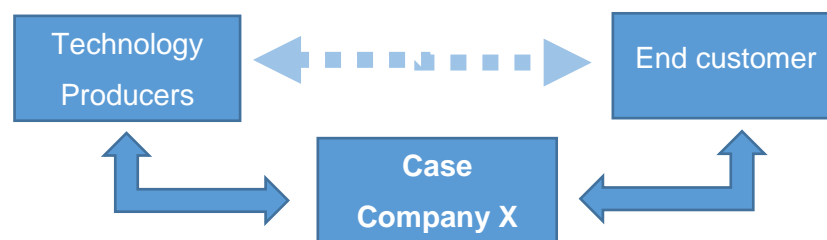


Figure 14 – Company X as the technology portal

The flexible infrastructure provides the possibility to pivot at this stage. The strengths enable the company to maintain it relevant to its target customers and provide the ability to case company X to compete with its market segment competitors. The weaknesses of the company are temporary and with time the case company X can manage to fortify them. The case company will need to prepare appropriate measures to counter against the threats that it is exposed.

#### 4.3.1.4 The core business processes

The core processes of the company are the processes that really make the difference of company’s success. These processes are needed to be optimized continuously and the

resource waste must be minimized to the least. The figure 15 demonstrates the current core business process of the case company.

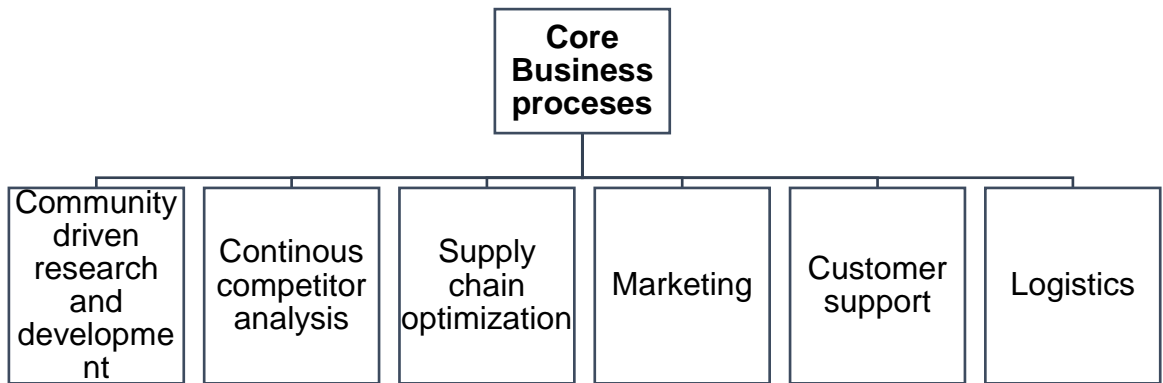


Figure 15 – Core business processes

As company’s unique business model is based on the community driven device development, the case company works continuously with its community for the research and development. The community provides numerous benefits to the case company. The figure 16, displays research and development process of case company X.

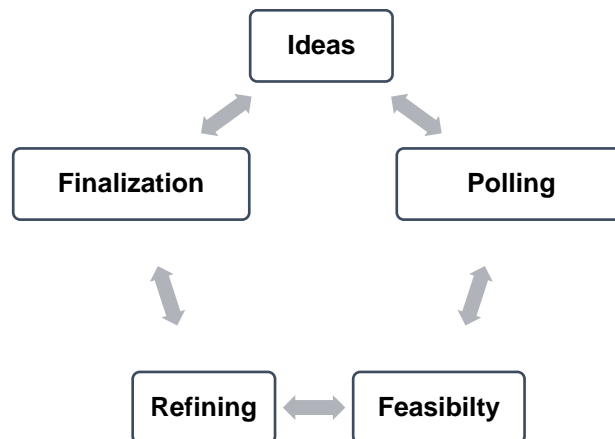


Figure 16 – Research and development cycle with community

The community users provide their ideas through the communication channels to the case company X. These ideas can be new features, improvements or elimination of features that users consider important for the future products of case company X. The users can provide different product ideas. Once the ideas are submitted they go through the community polling and other users will approve or disapprove the feature for the future products. Based on the polling statistics, case company evaluates and selects the features that are considered important by the community. After the selection of the demanded features the company runs a feature’s technical and financial feasibility testing. Based on the current company capabilities and existing technology the company provides the communi-

ty with an optimum solution pack of the features. The community runs refining iteration and finalize the idea. The finalized idea is saved in the product development feature portfolio and deployed in the mass production.

The technology industry moves with a very rapid pace and market information vital for the company's success. The company's senior management needs to stay up-to-date to the market demands and the competition. The company continuously runs competitor analysis and keeps track of the latest products and services in the market. The case company also conducts researches on other technological industries to implement a combination to develop better future products; for example water proof sprays for hardware protection.

Supply chain has a crucial role in hardware production business. The traditional hardware industry contains an excess of intermediate transactions, from the production to end customer, which results increased prices for the end customer. The case company's objective is to have only necessary transactions and gain the cost competitive advantage. The case company continuously makes researches for cost optimization in their supply chain.

Marketing is an important activity for the case company that provided the company a visibility throughout the globe and transmit its concept of community driven product development approach. The company's marketing activities keep the community engaged and motivated to contribute in the development of the new products. The company's marketing methodologies are based on modern social network channels i.e. Facebook, Twitter and technology magazine review forums are the main channels of marketing which are cost effective and give a large scale visibility as compared to any other marketing channels. Apart from these channels company's marketing activity continued by attending different technology events which gave the company visibility and direct networking opportunity with other technology pioneers.

The case company's foundation mission is to minimize the gap between the customer and technology. The case company X's one of the main objective is develop products based on the end-customers ideas and needs at a competitive pricing. The case company's strategic objective is to make heard the customer's voice. The post sales services are vital to the company X otherwise company loses the essence of its foundation. The company's customer service based on the empathetic motto of "Treat others same as how we want others to treat us". The case company provides a friendly customer service without traditional hierarchical departmental redirects. The customer service is established with an intention to provide minimum contact resolution to customers but with quality and smoothest experience to obtain the maximum customer satisfaction.

For customer's smooth experience company X is continuously optimizing its customer service performance and quality. The continuous customer feedback loop acts as a direct channel of idea sourcing to improve the current products and remove any unnecessary features in the products. Figure 17, demonstrates the continuous feedback loop followed by the case company.

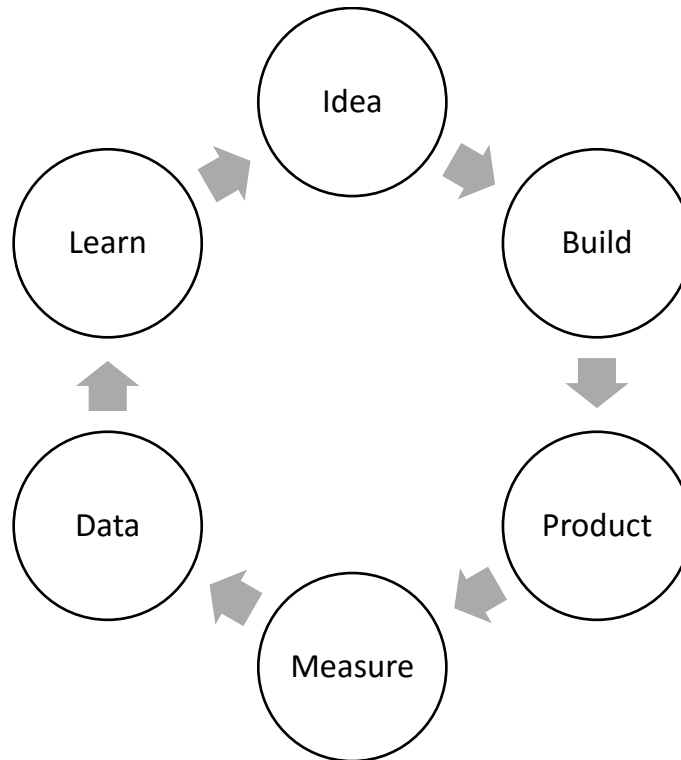


Figure 17 – Continuous feedback loop (Eric R. 2011, 79)

The continuous customer feedback loop promotes the product improvement but also the fact of inclusion and interaction with the customers provide the company to have transparency with its community and mouth to mouth marketing among them.

The company logistics is another core business process of the company that carries the company's business values with it. It consists of the customer journey from the point of the purchase till the delivery of the product. The company promises fast and low priced logistics to its customers. The company keeps its customers up-to-date about their orders and promises the minimum dispatch and delivery day.

### **4.3.2 Phase II – KPI framework testing**

In phase I, the author has analysed the core business processes that are executed on the daily basis in order to keep it aligned to its business strategy. The business strategy gives us a clear vision of where the company X is heading in its future. The core values and the key success factors fortify the roadmap of the case company X to accomplish its mission. Hence, the execution of the company X has to be very efficient and reducing the resource wastage to the minimum. In the phase II, the author has conducted the workshop according to the winning KPI methodology. In phase II, the author will evaluate and elect one of core business processes where the performance measurement is crucial for the case company.

#### **4.3.2.1 The commitment to the change**

The phase I of the empirical part, not only enabled the author to get acknowledged to the core business processes, but also emphasized on the importance and benefits of the organizational performance measurement to the senior management. The CEO and the COO of the company agreed that there is urgent need of implementing performance measures for an optimized execution of operations for the next phase of the operations of the company. The author presented to the senior management the difference between the KRIs and KPIs, the KRIs are limited are more relevant to the board of the company than its management. The KPIs are the ones that enable the company's management to keep aligned its resources to the business strategy and to allocate the resources in order to improve the underperforming business areas. The author also presented the myths and the unintended negative effects that performance measures can bring to the organization and the counter measures how they can be reduced to the minimum.

The case company is at its early stage so the COO of the company participated with the author as the chief measurement officer (CMO). The COO is one of the co-founder of the company X. He established the company's operations, which makes him as an optimum candidate for the role of CMO. The COO has the deep knowledge about the business processes both at strategic and operational level.

The company's team being small in size at present, the author was able to gather the management and the frontline staff together to conduct the workshop. It is crucial to take whole team together for implementing KPIs. As later they are the ones who will utilize the KPIs to improve their performance and make their daily decisions based on the KPIs. The joint workshop provides a clear definition KPIs with its outcome changes in the organization to all. The frontline staff played a crucial role to minimize the dark side of the KPIs. In



the workshop, the main objective was to search for the operational critical success factors (CSFs) that are crucial to the company. Based on the workshop together with company's staff author mapped out the operational critical success factors of the case company. In figure 18, we can see the critical success factors of the case company that makes it successful aligned to its strategic objectives.

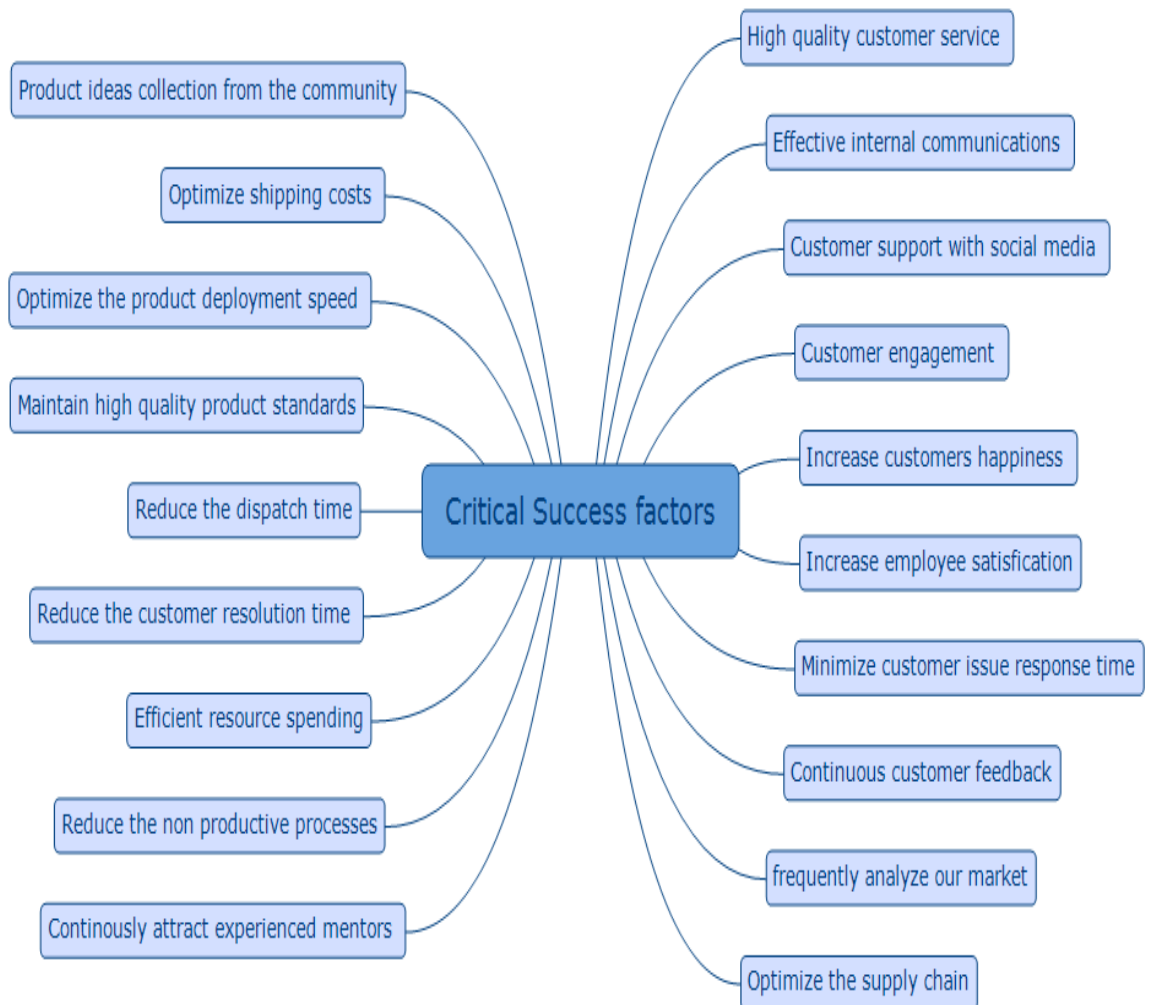


Figure 18 – The critical success factor mapping of the case company X.

The operational critical success factor mapping enabled to understand the day to day processes that the case company can adopt to optimize to achieve its strategic objectives. The critical success factors were based on the daily activities on which the company staff works daily. During the workshop, the author and the case company discovered that besides the other critical success factors the high quality customer service is critical success factor and how important is to improve it. The author together with the senior management that research will be continued to develop KPIs focused on the customer service and it affects all four perspectives of the BSC and also generates high economical value.

#### **4.3.2.2 Election of the core business process for measurement**

The case company's business model of community driven company focuses on its high value relationship with its community members which includes its customers. The customer service is one of the core activities that provide the company high business value to compete with its competitors. The company's anti-corporate culture and friendly behaviour have highly attracted the customers and have kept them engaged with the company. In a recent report of CNBC, the computer tech support was considered as the worst customer service among the other industries (Jane W. 2015). So it is crucial for the case company optimize the customer service experience to obtain maximum customers satisfaction and simultaneously their feedback to improve the future products. The optimized customer service can provide a significant competitive advantage to the case company.

#### **4.3.2.3 The customer service analysis**

At present the company X is at its early stage and is moving towards its expansion stage. The current customer portfolio is small. It was possible for case company to serve and monitor with the manual procedures and tools. The company's internal communication level is linear i.e. that is there are no specialization hierarchies. As the company was so close to its customers it was possible to provide quick answers with a short resolution time. Due to small volume the customers were not replied with standard templates and delivered a personalized touch to each of the customers. This gave an added value to the customers and increased the level of engagement.

The internal personnel are the vital resources for the case company and the manual procedures overwhelmed them and distracts from their core activities. Due to small customer portfolio it have not been affected significantly but for the expansion stage the company X wants to be prepared. The company X need to establish standard process for the customer service by which it can be handled with ease but without losing the quality. The case company need to establish the KPI and performance measures for the customer service. The KPIs will be needed to make organizational decisions for improving the customer service.

#### **4.3.3 The strategic objective of the customer service**

The case company's strategic objective for the customer service is to create a very close friendly relationship to its customers and always insures that their voice is being heard till the top management in order to keep high standards of product quality and the high customer satisfaction. The customer service is the front end channel that delivers of the service to its customers before, during and after the sales operation. The customer service is

one of the closest channels to deliver a company's promises to its customers. It provides real image of the company to its customers and simultaneously is the closest channel to receive the direct feedback about the company's products for its future improvement. In figure 19, the author analysed the scenarios that triggers the customers to interact with the customer service.

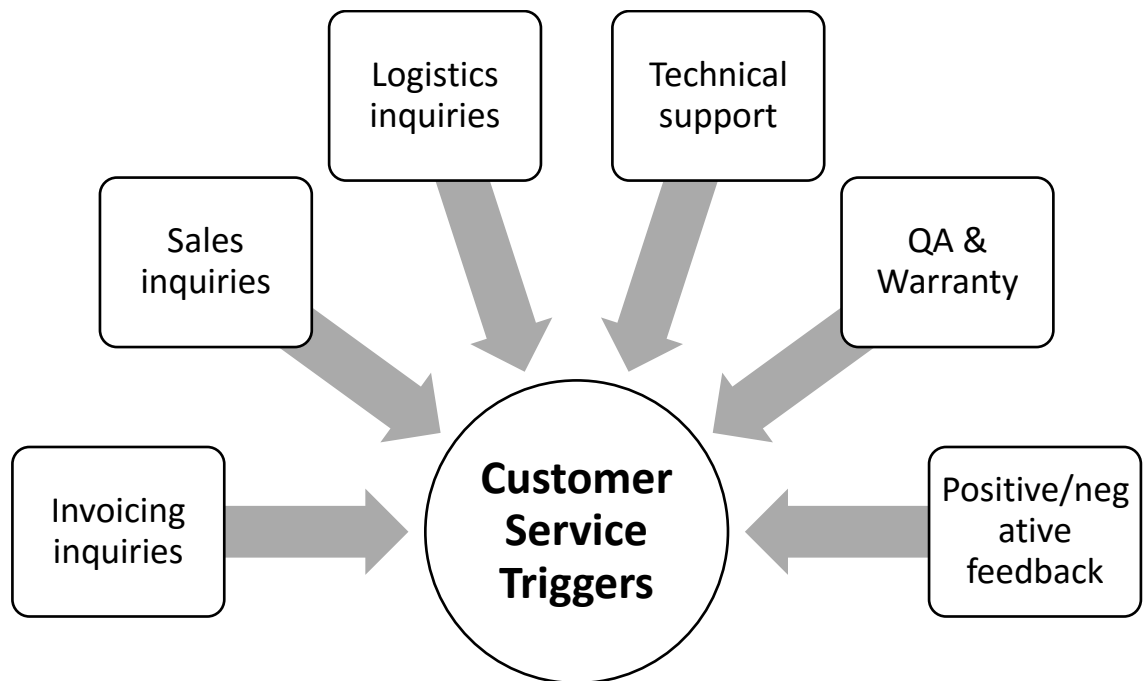


Figure 19 – Customer service triggers

The customer service is contacted to obtain support for the various inquiries. In the sales, inquiries the customers inquire about the availability in their geographic zones, the logistics costs and other technical specifications about the product. The invoicing inquiries are in concern about the invoicing documents, payment methods and the refunds that customers can claim from the company in case of an incident. As the case company delivers tangible products, the logistics inquiries quite often consist of inquiring about the dispatch and shipment status of their order and also the reception of the returned products. The case company produces smart technological devices and the technical inquiries are the highest in number. This caused due to fast changes in the technology sector and due to lack of consumer knowledge about the new products and technologies. The technical inquiries consist of software and usability issues. Although company's core value is to produce high quality and life-long products, but it is inevitable to have an acceptable defect rate due to production factors. The quality assurance (QA) and warranty is considered as one of the crucial processes as it is process where lifelong loyal customer relationships are created. The company intends to provide the process as smooth as possible. The case company takes in account the long term economic value generation and in retaining

the customer. The QA inquiries enable the company to collect direct feedback from customer to improve their products in future. The positive feedback is the motivational fuel of an organization. The positive feedback provides the management analyse the customer value proposition. From the above triggers, we can conclude that each trigger have a common set of questions. These triggers can further be categorized in trigger types as shown in the figure 20.

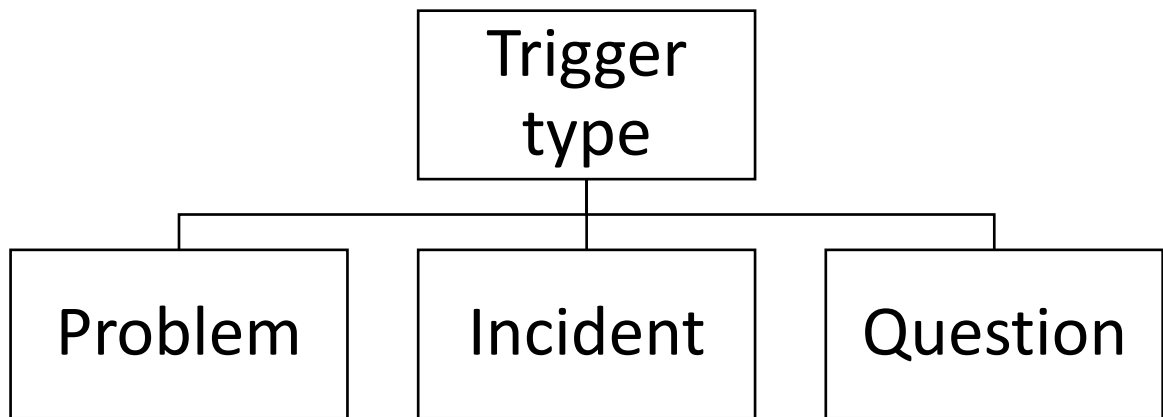


Figure 20 – Trigger types

The customer can contact the customer service in case of problems that the customer is struggling either with the product or it can be with the customer's interaction with the company. The incident can be determined as in case of product defects. In the case company there are two types of incidents which can occur due to a manufacturer fault or customers own generated fault. The question can be any general inquiry regardless of the questioner being a customer or not. The triggers are countable which the company can implement a system to count and track them. The case company adopt a ticket system which converts each initial interaction as a ticket. The tickets will enable the frontline teams to identify and approach with a right solution to the customer's query. The generated triggers tickets will also enable the management to decide, in case of increase in a certain trigger, then there is an urgent need of resource realignment to resolve the related issues. The trigger types can be further sub-categorised based on the trigger type. The trigger type subcategories can be related to the product and grouped to a specific business process. The type subcategories will enable the company to keep track of specific issues. For example, product based type subcategory can be a specific product defect and the defect is handled by a specific group. This will enable the management to improve the known defects in the future product iterations.

#### 4.3.4 The measures determination process based on critical success factors

The author has analysed the current customer service structure, based on which the author recommended an optimized structure which can be adopted by the company to optimize and standardise its customer service process. The author together with the company's staff has executed the measures determination process based on the critical success factors of the case company's customer service.

The strategic objective of the customer service is to keep the customers satisfied and engaged to the company. The figure 21 demonstrates measures mapping based on the critical success factors aligned to the organization's strategic objective of the customer service.

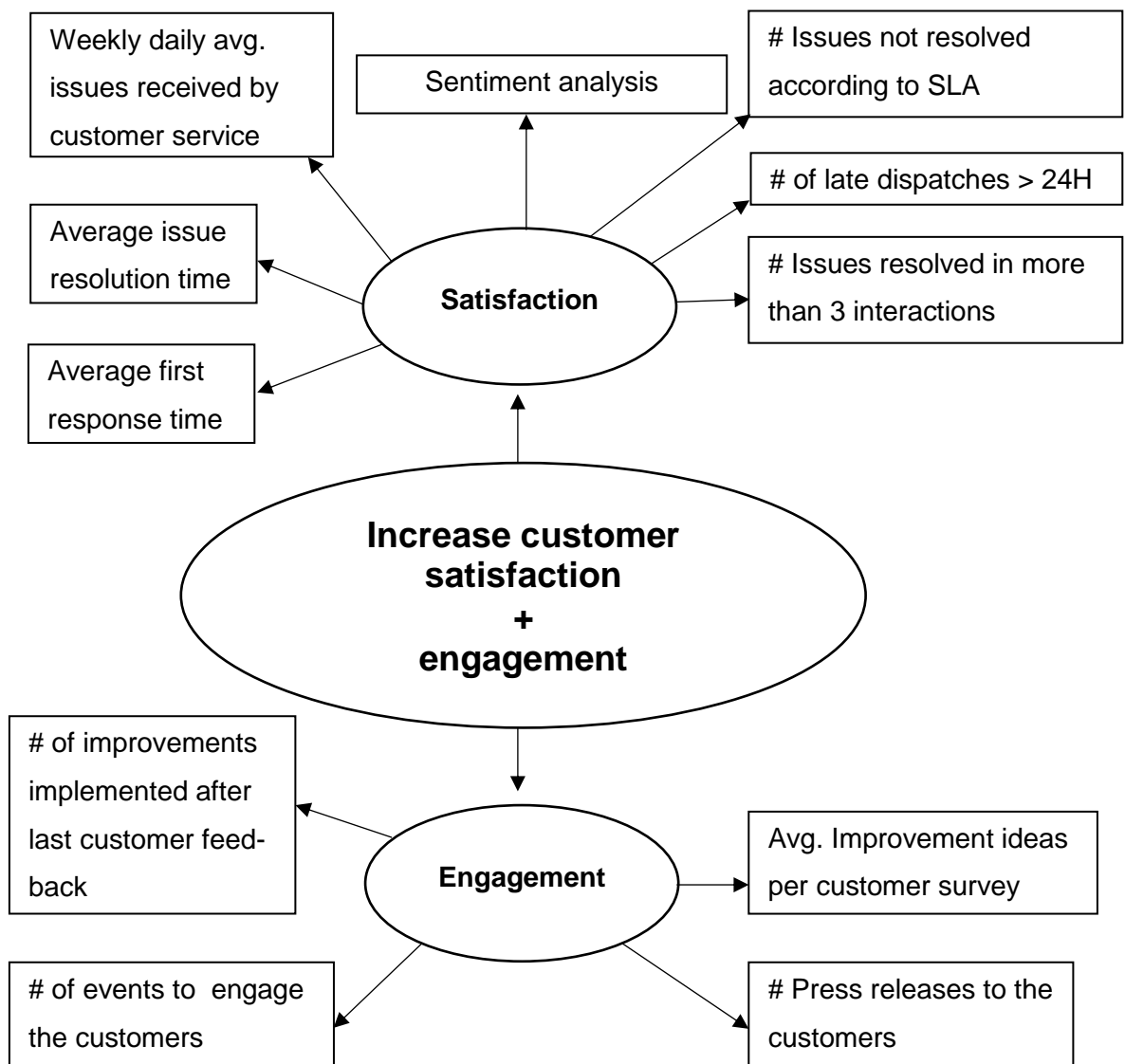


Figure 21 – Customer service performance measures mapping

The daily weekly average issues received by the customer service trigger a clear message to the company that if there are any sudden issues with which the customers are not happy. This performance measure will enable the case company to monitor the volume of the issues and can take the decision if there is a need of urgent issue resolution. In case of urgent need of the management can allocate more resources to keep the customer service satisfaction. It can be calculated with the following method.

$$\text{Daily weekly average issues} = \frac{\text{Number of daily issues received}}{\text{Sum of last 7 days issues}}$$

The average resolution time is the time that the customer service takes on average to resolved the originated issues of the customers. This measure is useful to measure the performance of the customer service staff and enables the staff to reduce the resolution time which leads to increase in the customer satisfaction. It can be calculated by the following formula.

$$\text{Average resolution time} = \frac{\text{Total time taken to resolve issues}}{\text{Total number of resolved issues}}$$

The average first response time to issues creates a positive value for the company in front of its customer, as lower the response time the higher the customer values it. It provides the customer with an indication that his/her issue has been successfully received and soon his/her issue will be taken care of. Hence increases the customers trust and confidence about the company. This measure can be calculated with the following formula.

$$\text{Average first response time} = \frac{\sum(\text{Time of response} - \text{Time of reception})}{\text{Total number of issues received}}$$

The customer sentiment analysis provides the actual image of the company and its products that are perceived by the target customers. The customer satisfaction needs to be measured frequently. The case company can conduct customer satisfaction surveys. The customer satisfaction surveys or interviews are the direct tools that enable the company to analyse the customer sentiment. The customer sentiment can come from different perspectives on a scale of 1 to 10. In the case company, the product perspective and the post sales service perspective are crucial to be measured. Based on the surveys we can analyse the average sentiment of the survey takers to demonstrate whether the company has a positive or a negative sentiment from its customer.

$$\text{Customer satisfaction sentiment} = \frac{\sum(\text{Customer satisfaction score} / \text{Highest satisfaction scale value})}{(\text{Highest satisfaction scale value} \times \text{number of survey questions})}$$

The issue resolution under the established service level agreement (SLA) keeps the company's customer service staff aligned to brand promises of the company of delivering the customer service i.e. if SLA for resolution is 24h and if the issue is still pendent to resolve, the PI triggers an alarm that there are issues that need to be resolved urgently. It is a conditional trigger that depends on the SLA establishment. The measure can be calculated with the following method.

$$\text{Number of issues not resolved under SLA} = \sum \text{of issues } [( \text{time of reception} - \text{time of resolution} ) > \text{SLA time}]$$

The company promises to its customer the least time to dispatch orders to its customers to reduce the delivery time. The company promises that once the order has been placed by the customer the company dispatches the order in less than 24 hrs. This performance indicator is crucial in logistics as if it is triggered the it leads to two actions, first it indicates the logistics personnel that there is a delayed order and indicates to contact customer about the delay in the delivery to give the current status about its order. This performance measure can be calculated as follows.

$$\text{Number of orders delayed to dispatch} = \text{count of orders } (( \text{Order time} - \text{dispatch time} ) > 48 \text{ Hrs})$$

The case company promises to provide minimum interaction resolutions to the customers. But the case company considers that the interactions must not increase more than three interactions as it is very often in the first interaction the customer explains problem from his point of view and in case if it is not understandable, in second interaction he explains according to the questions inquired by the customer service personnel and the third one should be the definitive. The interactions must be reduced as it reduces the consumption of human resources and in case if there is an issue that has more than the established number of interactions company needs to standardise the issue for faster future resolution.

$$\begin{aligned} & \text{Number of issues resolved in more than standard interactions} \\ & = \text{Number of issues } ( \text{resolution interactions} > \text{Maximum SLA interactions} ) \end{aligned}$$

The company intends to build a high quality engagement relationship with its customers. In order to obtain this engagement, the company needs to be in touch continuously with its customers. The author recommends the case company to conduct customer surveys, events and the press releases to keep in touch with customers engaged. The company can execute the continuous customer feedback surveys. The objective of the surveys is to keep in touch with the customers and receive their feedback about the company's prod-

ucts and services. With surveys evaluation the company can implement the improvement and can set an average periodic frequency for customer surveys. The average number of improvements per survey will enable the company to determine whether the current product or service needs to be improved. The lower value will indicate that the product is delivering according to the customer's expectations. The measure can be calculated by the following method.

$$\begin{aligned} & \text{Average improvement idea per customer survey} \\ & = \frac{\text{number of unique improvement ideas} * \text{no. customers}}{\text{number of customers surveyed}} \end{aligned}$$

The company intends to keep in touch with their customers by creating occasional events. The events are of different form in the case company. So far the company created competition events, which leads to an action of the customers and engages them with the case company. The performance measure can deliver the participation rate of users per execute event. It can be calculated as the following.

$$\begin{aligned} & \text{Monthly average consumer contribution per event} \\ & = \frac{\text{number of user contributions}}{\text{the events executed in the month X}} \end{aligned}$$

The press releases from the case company increase the exposure to the target audience. It enables the case company to acquire new followers. The case company can measure the success of each press release by the increase in number of its followers. It enables marketing team to measure the effectiveness of press release strategy.

$$\begin{aligned} & \text{Rate of unique users per press release} \\ & = \frac{\text{number of unique users}}{\text{number of press releases in the month X}} \end{aligned}$$

The above performance measures are the first version which can be implemented and refined by the case company to establish the company's strategic objective of the customer service. The performance measures allow the management and the frontline staff to analyse at a quick glance the performance of the business process. The performance measures enable the personnel to focus on the underperforming area and to implement the improvements to boost such areas.



### 4.3.5 Customer Service KPI dashboard

In the previous chapter, the author developed KPIs based on the workshops and the author created a test data sample (Appendix 4.) to test the customer service performance measures. The customer issue test data is based on real data that the case company receives in the customer service on daily basis. To keep the confidentiality of the customer's information the customer names are not real. In figure 22, we can see the different KPIs in the graphical form that gives a quick indication that how the customer service business process is delivering at present.

## Customer Service Dashboard

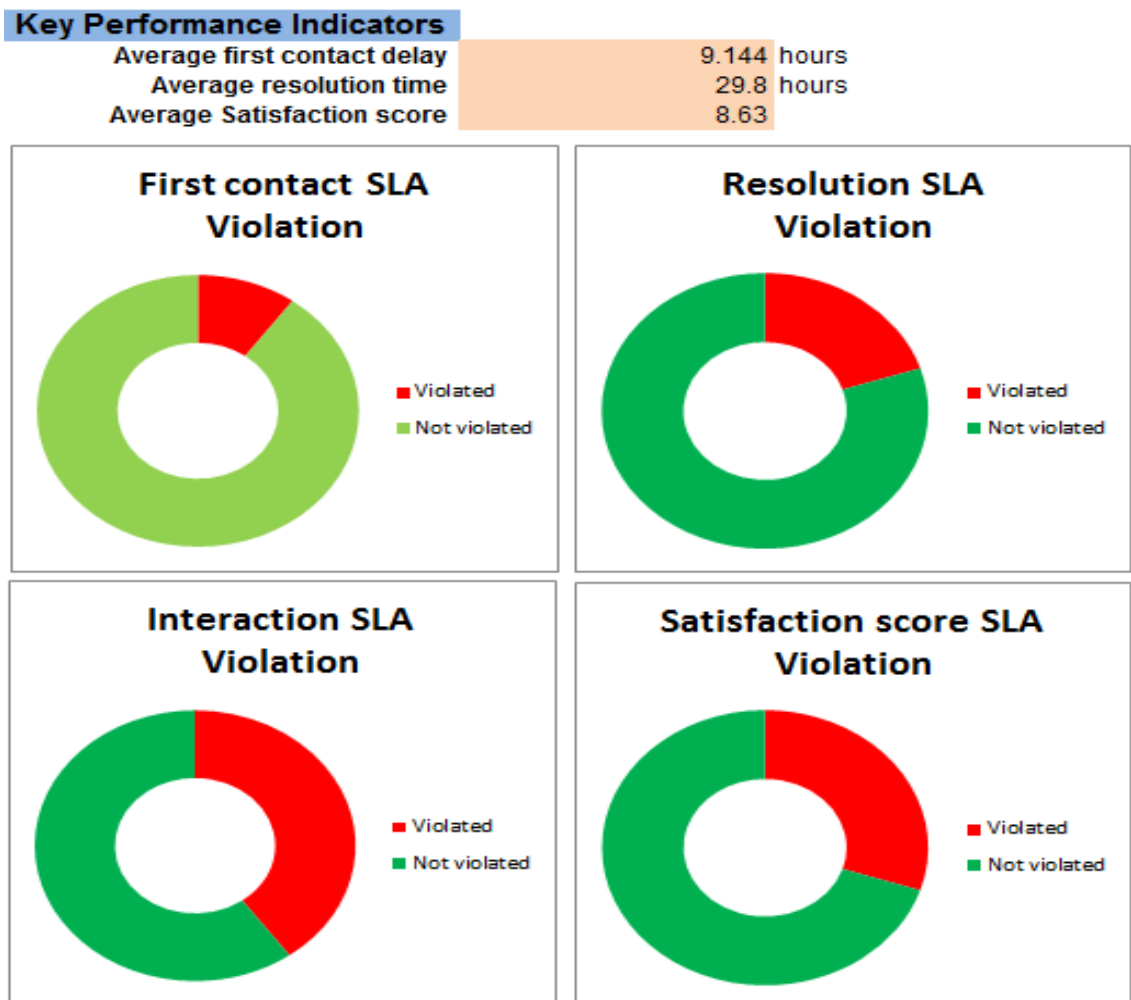


Figure 22 – Customer service dashboard

The above customer service dashboard represents whether the customer service is working according to the service level agreement (SLA) that can be established by the case company to fulfil the strategic objectives and its promise to the customers for the provision of service. A KPI dashboard is the form of representing the data in a visual form. The data visualization provides a faster and intuitive understanding, it also enhances the decision

making capabilities of the staff. The KPI dashboard enables the management to understand how overall the business process is performing. In case of KPIs related issues, the management can look at the graphic and directly take improvement measures for the process that is underperforming.

#### **4.3.6 Summary**

In the empirical part, the author explained specifically the empirical part objectives, research method, the research execution plan and the research process. The empirical part consisted of analysing the case company's core business processes and the KPI development framework testing. The author's conclusions are the result of the empirical part of the research.

In the empirical part, the author analysed the case company's business strategy and the core business processes, which provide the author an adequate knowledge about the case company's strategic objectives and the core business processes that need to be continuously aligned to the business strategy. The company's strategic objectives analysis enabled the author to build a strong foundation before the testing the KPI development framework. The strategic objectives determination gave the research a clear direction to which the KPIs should be linked to align the company resources. The author's decision of selecting the winning KPI development framework has been proved to be accurate. The winning KPI framework had a straight forward KPI development process. The framework steps were comprehensive and intuitive that enabled the author to collaborate with the case company's staff to develop KPIs with ease. The intuitive and friendly collaboration directly with the staff enhanced transparent decisions making in between the management and the staff. The framework enabled the case company to understand the importance and benefits of the organizational performance measurement. The workshops and the process mapping added a great value to the research, which made it easier to collect the research data.

After the data collection and analyses, the author focused on the customer service business processes that need be optimized and measured at this stage. This also enabled to limit the scope of the research due to limited time resources. The author based the strategic objective of the customer service as the foundation for the critical success factors in order to link them to each other. Based on the critical success factors, the author developed the possible performance indicators that the case company can implement to measure and optimize its overall customer service performance.

As for the research objective of the empirical part, the tested KPI development framework has successfully produced satisfactory results for the case company. The author highly encourages the case company to use winning KPI framework to develop its future KPIs and enhance their performance by implementing KPIs in other core business processes. The author recommends that the case company should abandon the traditional tools i.e. email for their customer issue management.

## **5 Discussion**

In the research project, the theoretical background served as the vital support to conduct the empirical part. The support of research advisor and the case company's management played a crucial role to execute the empirical part successfully.

### **5.1.1 Results review**

As a researcher, the author is overall satisfied with the research process and the results. Even though, the author and the case company were new to the concept of organizational performance measurement, the results of the research were beneficial for the case company to improve their customer service process.

The research introduced the case company to a new organizational change and has revealed the potential benefits of the organizational performance measurement. As a research result, the author found that the winning KPI framework can be utilized and can be created as a standardised procedure to develop future performance measures in the case company. The customer service is a crucial business process that the case company needs to optimize before launching its next operations. The organizational measurement must also be applied to other business processes in order to drive performance and reduce the possible wastes in the processes at organization wide level, which can provide the case company a significant competitive advantage and to deliver its brand promises.

In the research project, the author worked directly with the case company's management and the staff for the research project. The data was collected via direct interviews and workshops with the case company's personnel. The reason to keep the data collection limited to the internal staff is based on one of the principles of the KPI development framework that the KPI data must be collected directly from the case company. This enabled to produce the most relevant results. The collected results can be found in the appendices and they are reliable and trustworthy.

### **5.1.2 Future research work**

The case company was at its expansion stage and the research introduced it to the power of measurement to execute well. The recommended KPIs were the first version and the case company need to conduct iterations to finalize them. The research results can be used to refine existing KPIs and to create new KPIs that will be needed by the case company to stay aligned to its business strategy and respond to its temporary environment.

In the future, the case company can continue to refine the first version of the KPIs, which were developed by the author. The case company can develop KPIs for other business processes i.e. for the production, development, marketing, and finance etc. The case company can implement reporting system to automate the KPIs with real time company data, which accelerate the decision making ability and optimize the reporting processes.

### **5.1.3 Self-learning evaluation**

The thesis research project had a total duration of two months and nine days. The thesis project initiated on 01.09.2015 and ended on 04.11.2015. The total number working hours allocated to the project were approximately 403 hours. The research had a limited scope, but as the research was related to strategic level of the business, the theoretical background took the most time and effort. The empirical part was interesting and enjoyable, which enabled the author to collaborate with two different level teams together i.e. the management and the staff. The thesis research project enriched the author's knowledge from various aspects.

The thesis research improved author's self-learning by literature research process. The research enabled the author to build focused research capabilities and skills to synthesize from different literature resources to obtain intended results for the research objectives. The research work enabled the author to conduct qualitative research data collection method and analyses to combine with the theoretical research. The author also improved his article and research documentation skills.

The theoretical background review built a strong foundation for the author's knowledge in the discipline of performance measurement. The author has learnt the importance, the benefits and the competitive advantage that an organization can gain by implementing the right measures.

The empirical part of the research provided the opportunity to collaborate with teams to obtain need data based on their business requirements. This enriched the user interpreta-

tion capabilities of the author. The empirical part also improved the business strategy analyses skills of the author. The business strategy analyses were conducted to fulfil the needs of the research.

The project management part of the research was a bit challenging but the author concluded that the well written plan saved a good amount of resources. The research plan kept the author on the track towards the research objective. The author practised well the task estimation and the deliverable estimations and the time management for the project. The creation of milestones helped the project to set targets. The key to meet the project deadlines was topic motivation and work consistency that kept the project progress fluent. The thesis research project enabled the author to brush-up different skill sets and also gave the experience of a real life project. The author is overall satisfied with the project execution and its results. The knowledge and the skills gained in this project will add a valuable in the future professional career of the author.

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## Appendices

### Appendix 1. Business Strategy analysis Interview questionnaire

Interviewee: COO of the case company

Date of interview: 02.10.2015

1. How would you define a business strategy?

The strategy is the path that a company follows to research its business objectives.

2. What is case company X mission and vision? Why was this company founded and where is this company heading to in its coming future?

The company was founded as a trading company to produce and trade beautiful consumer electronic devices and satisfy the needs of the market and obtain a financial income. But while the market research, we found that there is huge gap in between the end-consumer and the manufacturers which can provide huge business opportunity for the organization. The mission of the company is make the consumer voice heard for the development and production but with lean production methodology which i.e. cutting all unnecessary costs in the process.

In future, our company's vision is to become the platform for the end-customers and deliver the high end technology to the market with competitive pricing.

3. What are the core values of the company?

The core values of our company are:

- a. Community driven development company

Community driven development is the core value of the company X. The community driven development have been popular in the software industry from decades but the consumer electronics industry is far behind.

- b. Minimalistic design

The minimalistic product design consists of designing the products and adding only those features that have an added value for the end customer. The minimalistic product design reduces the extra costs significantly but retains the high value in the product as customers never use such features.



c. High quality

As being from Finland, we want to keep the same quality culture as our ancestors. We consider the high quality to be our core value as the end product leads value proposition to the end-customer. The product development has its main objective to product life-long products. We choose the optimum components for the production with a perfect relation to price and quality. And as always the end-consumer value proposition is considered before any component selection.

d. Competitive pricing

Technology is not expensive to produce. The devices in the consumer electronics are unreasonably priced. Our company objective is to produce devices at a price what they really worth. Our company follows the lean management methodology that aims to reduce unnecessary company costs and provides a sustainable income to the case company X.

4. Who are the target customers of Company X?

The company X targets a niche market of high tech end-customers who know the real added value of the technological products. Mostly our customers consist of IT professionals and have adopted our devices to use as a tool.

5. What are product / service lines of company X and how company X positions itself in the market?

At the moment we produce smart device i.e. Microsoft windows tablet and we position it as a productivity tool with portability.

6. What are the methodologies or processes to implement product to market strategy?

Our team is our company's biggest resource. Our team consists of highly skilled professionals who have collaborated to accomplish our company's mission and vision. Our professionals come from different specialization sectors who collaborate together to deliver the company's strategic objectives.

7. What is company X market access strategy?

Currently, company X has accessed the market through business to customer business model which created a direct contact to the end-customers. We have our single sales channel through our online webstore.

8. What are company X's identified key success factors?

a. Highly committed team of professionals

Our team is our most valuable resource. Our team consists of high skilled and efficient professionals who are motivated and committed to bring the change in the hardware development.

b. Community driven development methodology

Customers' inclusion and interaction gave us the opportunity to develop new products based on their needs and their creativity. Community driven development gave the transparency to the customers and gained their strong trust for future products.

c. Lean production framework

Cut down all possible intermediate costs in the production.

d. Business to customer model

Our company follows lean production model similarly we adopted direct sales to our customers which kept our distribution costs lower as compared to the traditional consumer electronics company.

e. Empathetic customer service

Our customer service's working principle is "Treat others same as how would you like them to treat you". Our company aims to deliver a friendly and minimum-redirection customer service. We intend to deliver the solutions at minimum times possible. A lot of times we have solved questions with the collaboration of our community which is a very powerful problem solving source.

f. Cost effective marketing via social networks, press reviews and public events

Our main channel of marketing was via social media website i.e. Facebook which enabled us to rise our exposure and build our community in a short period of time. The social media marketing proved very effective in targeting our audience. The social media also provided us the opportunity to interact with our community and customers in a user friendly way also. As in technology sector, we approached to the technology magazines that provided visibility and high quality feedback from professional reviewers. A part from these we attended personally a good number of public events which raised our visibility and increased our network.

g. Experienced mentors portfolio

Due to our unique business model, a lot of people are willing to collaborate and join our company's mission. We managed to attract high profile execu-

tives from giant tech companies who provided us counselling with their valuable business experience and knowledge that they have obtained in their career.

9. What are the core business activities of company X?

- a. Research and development with Community – customer’s voice
- b. Continuous competitor analyses – latest technology information
- c. Supply chain optimization
  - i. Production optimization

Find continuously suppliers to provide cost effective production.

d. Marketing

- i. Content creation
- ii. Community engagement

e. Customer → support, customer satisfaction and product feedback

i. Customer support

- 1. Problems
- 2. Questions
- 3. Incident handling

ii. Customer satisfaction surveys and product feedback

- 1. Send customer surveys if they are satisfied with the purchased product?
- 2. Feedback for the product improvement?

f. Order fulfilment

- i. Logistics

10. How do you measure your strategic performance?

We are a noble company and we recently initiated our business operations at the moment we follow the traditional financial methods for organizational performance measurement.

## Appendix 2. The KPI development workshop

**Attendees:** CEO, COO and the case company's operational staff

**Date:** 30.10.2015

1. What are the current measures that are used by the management to monitor the company's performance?

The case company is in its early stage and so far the company management and the staff have been completely focused to run the business. At the present the company utilizes the accounting measures such as net profit and the revenue generated by the company in the given time period. But so far company has not adopted methods to measure its performance.

2. What is the current size of your team?

We are in total 8 people. But our team is cross functional team with specializations in particular fields.

3. Is your company familiar with difference between the Key result indicators and key performance indicators?

The case company management was not familiar with concepts as they were still using the accounting measures to measure the organization's performance.

4. Do you think there is a need of performance measurement in your company?

The company is at its early stage and so far due to small volume of data more or less the company have managed to keep a track of its overall performance and the processes are not so complicated. But as the company is moving to the expansion stage so it is obvious that the business processes will get complicated and the management will adopt measures to measure the performance. So it's better to start at this stage.

5. In your company who can be considered as the person with deep knowledge about the business processes?

Our COO of the company and has a deep level knowledge about the company's business processes. (Potential candidate for the role of CMO).

6. Is your company familiar with the concept of critical success factors, if yes what are the critical success factors of your company?

We are familiar with the concept of key success factors but not with the critical success factors.

7. Does your frontline staff faces any problems while making daily activities based decisions?

The daily activities are simple but sometimes if a new scenario originates the staff need to consult with the management to take an optimum decision.

8. Is your staff comfortable with the change?

Our staff is a team of motivated professionals and are confident about their work and are willing to make the change to improve their performance and decision making capacity for their day to day objectives.

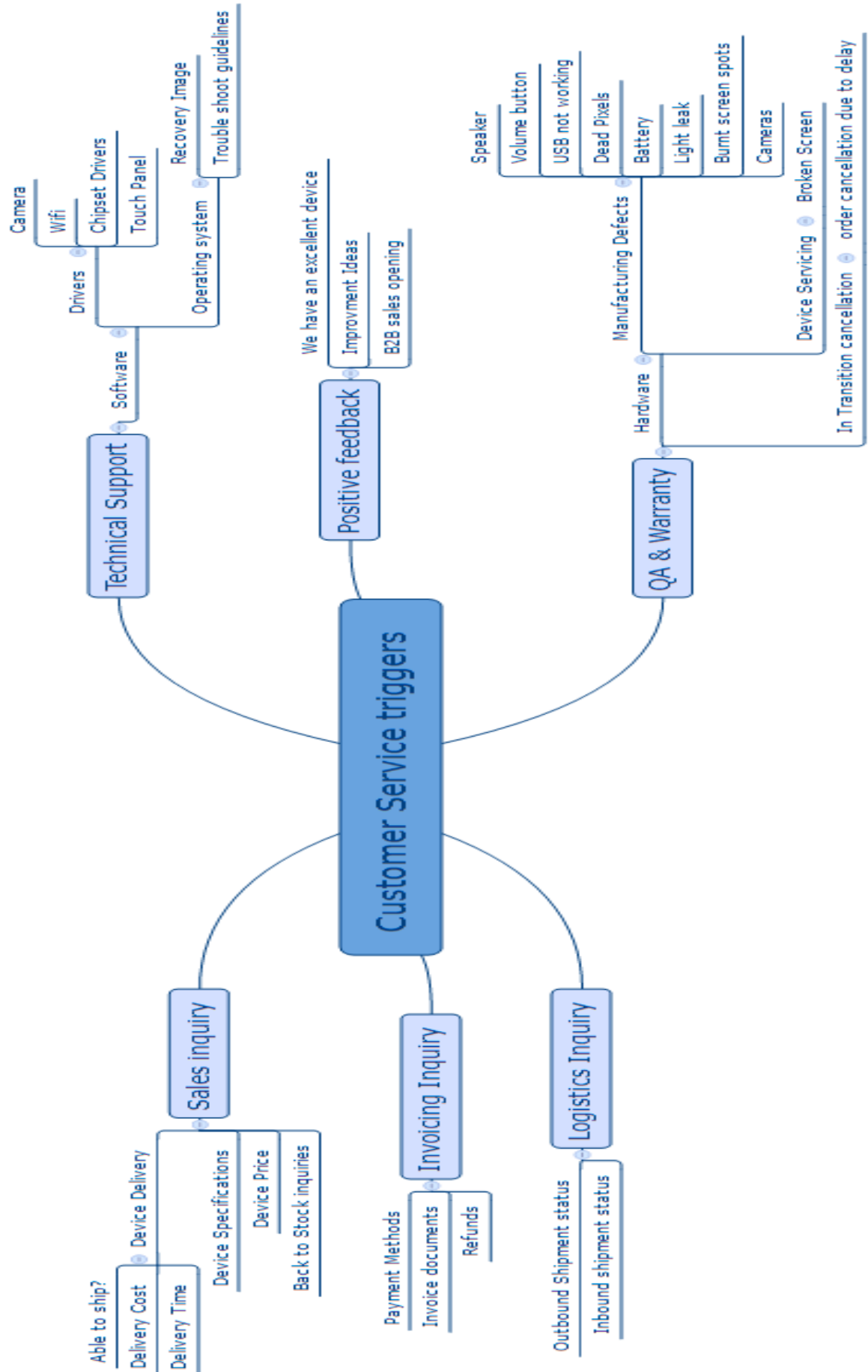
9. Has the company ever done a critical success factor mapping exercise?

No, the company has not used mapping for its critical success factors but the company it utilizes very often for other tasks.

**10. List of the critical success factors of the case company.**

<b>Critical success factor</b>	<b>Benefit</b>
Idea collection from the community	To develop new products
Optimize the shipping costs	More to space in price to compete
Optimize the product deployment speed	Faster the deployment reduces churn rate
Maintain high quality product standards	Lifelong products are built.
Reduce the dispatch time	Faster deliveries to the customer
Reduce the customer resolution time	Faster response to the customer
Efficient resource spending	Reducing wastage of resources
Reduce the non-productive processes	Enables to focus only on core processes
Continue to attract experienced mentors	Brings knowledge to the company
Increase customer happiness	Happy customers are loyal
High quality customer service	To keep them engaged and retain them.
Effective internal communications	Reduces the communication lags
Customer support with social media	More user friendly support
Customer engagement	Increases customer contribution to develop
Increase employee satisfaction	Keeps the employees motivated
Minimize customer issues response time	Gives trust to the customer that he is heard
Continuous customer feedback	To improve the future products
Frequently analyse the market	To stay up to date about the market
Optimize supply chain	To continuous optimization of the costs

### Appendix 3. Customer Service triggers



#### Appendix 4. Customer service test data

ID	Customer Name	<u>Email</u>	Date/time of Reception	Date/time of First contact	Date/time of resolution	# Interactions till resolution
1	Oren Rodriguez	<a href="mailto:rodrior@gmail.com">rodrior@gmail.com</a>	28.2.2015 0:30	28.2.2015 2:54	28.2.2015 5:18	1
2	Ben Bruni	<a href="mailto:ben101990@hotmail.com">ben101990@hotmail.com</a>	10.3.2015 14:00	10.3.2015 17:07	13.3.2015 20:14	4
3	Teena Coiler	<a href="mailto:teena@gmail.com">teena@gmail.com</a>	21.3.2015 3:30	21.3.2015 15:30	22.3.2015 3:30	5
4	Critina Hales	<a href="mailto:nina89@outlook.com">nina89@outlook.com</a>	31.3.2015 17:00	2.4.2015 12:12	2.4.2015 12:12	1
5	Angel Baucel	<a href="mailto:angel_spi39@gmail.com">angel_spi39@gmail.com</a>	11.4.2015 6:30	11.4.2015 7:42	11.4.2015 8:54	2
6	Juan Martin	<a href="mailto:jan.bcn@hotmail.com">jan.bcn@hotmail.com</a>	21.4.2015 20:00	21.4.2015 22:24	22.4.2015 0:48	3
7	Krister Valimaki	<a href="mailto:krister@rmail.com">krister@rmail.com</a>	2.5.2015 9:30	2.5.2015 12:37	4.5.2015 15:44	4
8	Michael Pear	<a href="mailto:mike.p73@yahoo.co.uk">mike.p73@yahoo.co.uk</a>	12.5.2015 23:00	13.5.2015 11:00	13.5.2015 23:00	1
9	Daniel Rovi	<a href="mailto:da-ni.rvic@hotmail.com">da-ni.rvic@hotmail.com</a>	23.5.2015 12:30	23.5.2015 23:18	24.5.2015 18:30	4
10	Toni Fernando	<a href="mailto:toni.star@gmail.com">toni.star@gmail.com</a>	3.6.2015 2:00	3.6.2015 3:12	3.6.2015 4:24	2

#### Service level agreements for testing

SLA's name	Target	Measurement unit	Calculation formula
First contact delay	24	hrs	= ( Date/time of First contact ) - ( Date/time of Reception )
Resolution delay	48	hrs	= ( Date/time of resolution ) - ( Date/time of Reception )
Max. Interactions	3	Interactions	= count ( # of till resolution )
Satisfaction score	6		= ( $\sum$ Satisfaction score by customer ) $\div$ ( # of customers )