

**PRODUCTIVITY OPTIMIZATION IN A DIVERSE WORKING
ENVIRONMENT:**

THE CASE OF PEC-MY SDN BHD

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DECLARATION



We hereby declare that the project is based on our original work except for quotations and citation which have been duly acknowledged. I also declare that it has not been previously or concurrently submitted for any other degree at USM or any other institutions.

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PENGOPTIMUMAN PRODUKTIVITI DALAM PERSEKITARAN

PELBAGAI KERJA

ABSTRAK

Objektif kertas ini adalah untuk mengenal pasti masalah utama yang menyebabkan PEC-MY tidak dapat memenuhi matlamat cabaran yang disarankan oleh organisasi. Ini secara langsung memberi kesan kepada produktiviti bagi syarikat tersebut dan juga secara langsung telah menyebabkan syarikat memikul kos kegagalan di sepanjang proses pengilangan. Kajian kertas ini bermula dengan menerangkan secara ringkas mengenai industri dan kelebihanannya dan kemudian bergerak ke isu-isu yang dihadapi oleh syarikat itu kerana mereka tidak dapat memikul matlamat pengoptimuman produktiviti yang diperlukan. Analisis terperinci menunjukkan bahawa terdapat enam isu utama yang menyumbang kepada sebab mengapa syarikat itu tidak dapat memenuhi matlamat pengoptimuman produktiviti. Isu-isu yang diperhatikan adalah seperti yang tertera di bawah:

- a) Prestasi buruh tidak konsisten
- b) Sikap kurang teliti atau sikap berpuas hati dikalangan kakitangan pengeluaran yang menyebabkan isu kualiti timbul. Ini mungkin disebabkan kerja yang sama diulang beberapa kali.
- c) Mesin Framing yang kerap rosak membawa kesan kepada pengeluaran harian dan produktiviti disebabkan aliran proses tersekat.
- d) Ketidakserasian dalam metodologi kerja mengikut kehendak tempatan.
- e) Aliran proses yang tidak cekap dari Internal Quality Auditor (IQA) kepada pembekal.
- f) Kesan alam sekitar yang berkaitan dengan suhu ambien, budaya kerja, kelembapan dan fasiliti.

Cadangan yang disarankan melalui kertas ini timbul hasil dari temubual bersama beberapa individu serta temubual bersama dengan kumpulan pekerja dari kesemua shif. Berdasarkan dari input yang diterima, beberapa perbincangan dan penilaian telah dibuat bersama dengan Ketua Jabatan tertentu di syarikat PEC-MY. Hasil dari perbincangan, maka beberapa pelan telah diatur mengikut fasa serta-merta, jangka pendek dan jangka panjang. Hasil dari tindakan yang dilakukan dalam fasa serta-merta, pihak PEC-MY telah dapat melihat kesan yang positif bagi Suku Tahun Pertama 2014. Para pekerja PEC-MY akan terus berusaha untuk memenuhi matlamat produktiviti optima dengan melaksanakan pelan tindakan jangka pendek dan panjang.

PRODUCTIVITY OPTIMIZATION IN A DIVERSE WORKING ENVIRONMENT

ABSTRACT

This paper's main objective is to identify the main problems that caused PEC-MY not being able to meet their challenge goals in terms of productivity and failure cost management. Secondly, this project also takes a look into the possible solutions that can be implemented to overcome these problems in three different strategic phases which is deemed suitable and matching to the organizations cost competitiveness and cost advantageous business strategy.

This thesis starts by describing briefly on the industry and its advantages and later moves on to the issues encountered by the company towards achieving productivity optimization and meeting the organizations target and challenge goals. Detailed analysis showed that there are 6 major issues contributing to the reason why the company was not able to meet their productivity optimization goals, which were:

- a) Inconsistent labour performance.
- b) Complacency of production personnel due to repeated work resulting in quality issues.
- c) Framing machine frequently breaks down causing bottlenecks and impacting daily output and productivity.
- d) Work methodologies need to be localised and improved further.
- e) Inefficient process flow and feedback loop from IQA to supplier.
- f) Environmental effect due to working condition: work floor ambient temperature, humidity, work culture, utilities and facilities.

The proposed recommendations for the issues mentioned were gathered through the interviews conducted with individuals from the company as well as through the Meet the People session that was conducted multiple times with different groups of employees across the departments and working shifts. Following, the outcome of the discussions with its contents was later derived into 3 action plans namely, Immediate Action Plans (IAP), Short Term Action Plans (STP) and Long Term Action Plans (LTP). Based on the proposals from the IAP and some actions from the STP taken, positive results were seen immediately for the 1st Quarter of 2014 itself. The challenge goals for both production output and as well as the failure cost targets were met successfully. Despite this good achievement, PEC-MY will not rest on their laurels and will continue to strive to meet optimized productivity goals for the future.

EXECUTIVE SUMMARY

This thesis aims to provide a better understanding of how a solid Standard Operation framework, an effective work instruction, simple and clear operation procedures coupled with

best training and development methodologies and teamwork despite a diverse workforce in PEC-MY can result in a unique manufacturing culture that not only have exclusive values and beliefs but also can work hand in hand through various value sets, assumptions beliefs and norms.

Multicultural teams are an essential part of today's global manufacturing environment. These teams are composed of members from different nationalities with diversified ways of perceiving the world by their cultural make ups. There is an extensive amount of literature covering this cultural area. Here different theories have contributed to the concept of diversity by recognizing the complexity of its multilayered nature.

In creating a theoretical as well as a practical finding on multicultural teamwork's performance, there is a need to examine how and what is needed to make the team an effective and efficient one in the first place. The effectiveness and the performance of the team would indicate the relationship with the potential productivity the organization would achieve. Furthermore, the so called diverse team is dependent on the team task and the different stages of the group work processes and is linked to the overall operational framework.

Obviously there are certain drawbacks in a multicultural team that can arise from miscommunication, misunderstanding, lack of knowledge and competencies. Other negative elements consist of the decline in team togetherness, perception issues as well as the absence of self-awareness from the cultural standpoint. In

addition, literature has also concluded that multicultural teams have a greater potential to reach a higher level of productivity than homogenous teams.

The features that make multicultural teams highly attractive are their increased creativity, variety of skills and their ability to suit different market needs etc. But at the same time, they can also succumb due to this same attractiveness due to misalignment, non-coherence and misguided direction.

The empirical results in this thesis are gathered using face to face and as well as phone interviews, which is a methodological development and new trend in qualitative research. We also managed to have interviews through “SKYPE” with colleagues and other management across borders, ranging from members who worked for a short period of time in multicultural teams to people highly experienced with such teams contacts in order to grasp a wider population.

Responses from people with a broad background of experiences resulted in an extensive data treatment process by the usage of different analytical tools.

From these processes, the concluding presentation of our findings will show the various ways how and what was crucially needed to initiate, improve and develop the necessary operational framework which can effectively improve the productivity and also reduce the failure cost in PEC-MY .

These methodologies are undoubtedly not only be implemented in PEC-MY , but given consideration and absorbed into respective operational frameworks, it can also be adapted in any manufacturing facility with condition they are willing to adapt, enforce and agree to a marginal investment with reasonable Return of Investment towards higher profitability. Some findings are in accordance with theories and some show different interesting patterns experienced in practice by our respondents which at times play a bigger role than earlier assumed.

CHAPTER 1

1.0 INTRODUCTION

1.1. Background of the issue.

Manufacturing organizations often talk about achieving higher levels of production efficiency and effectiveness, but outdated processes, poor networks, improper management of diverse working culture and tools are among the many obstacles that are difficult to overcome. With the right direction, guideline and good resource management, organizations can only achieve increased productivity in the sense of process effectiveness, higher efficiency and finally overall productivity optimization.

Companies usually hire employees from various backgrounds, ethnicity and experiences. Workplace diversity evolves when this gets in to the company culture and the leaders would see it as an investment toward building a better business. Many sees workplace diversity as providing provides many benefits, but it also poses many challenges to employees of all levels in reference to productivity and yield. Employees needs to understand the challenges if they are to enjoy the benefits of having workplace diversity. It extends beyond the mentioned to include strategic planning, organizational culture and change management. While much has been written on what, why, how and when on the steps to optimize productivity, the value that it provides to an organisation is far more complex than that and is very much under researched critically.

This dissertation discusses the issues; the impacts and what are the best solutions pertaining to productivity optimization in a diverse working environment at PEC-MY.

Though most organisations have a clear scope about the need for building people and product, they are not always aware of the unexpected consequences and impacts from their initiatives. This is not only to the employees themselves but also the impact to the top management and the company as a whole. For example, an unintended consequence of the implementation of an optimization plan with a larger number of people, could easily impact the moral and the motivation with a smaller group of non-selected pool of employees in the same organisation. Another example would be that the selection of improvement programmes could be condemned by non-performers and thus impacts the collective employees trust or perception on management itself.

Pulling these two in parallel, the productivity optimization initiative may not necessarily add value to gain competitiveness but could yield in bigger results such as achieving the company's set KPI's and meeting its business plans all together. Our ultimate intention is that, the result of this thesis can and would be used to further study the effectiveness of the Productivity Optimization Initiatives in a diverse working environment by providing scholars and practitioners a practical framework that would help them face similar issues in another working environment in the future successfully and come out with the best improved results as we did.

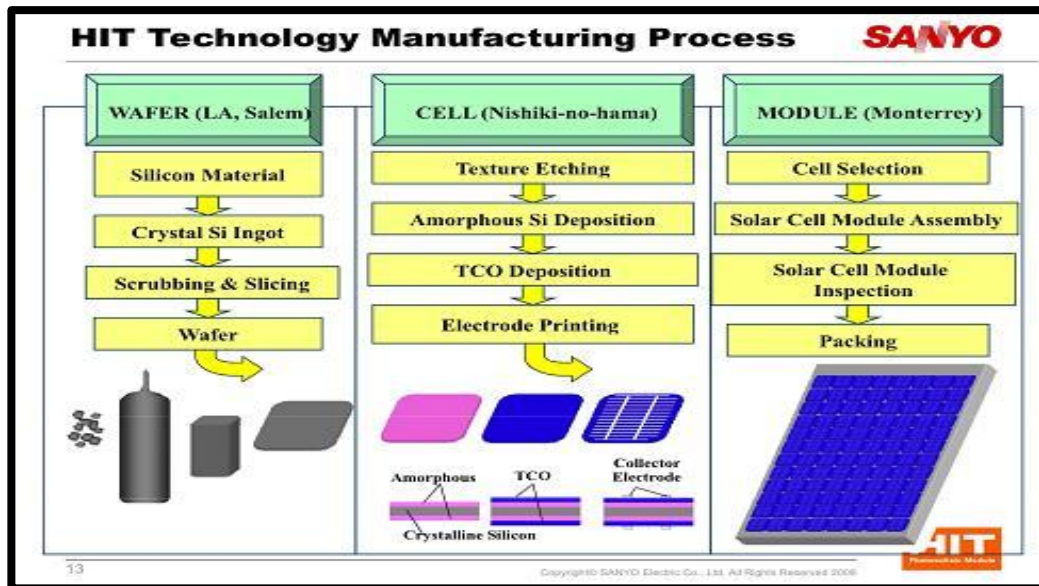


Figure 1.1: Standard processes in PEC-MY Integrated Manufacturing Facility

1.2 Problem Statement

Workforce demographics in Malaysia and many other nations of the world where similar businesses such as PEC-MY is present indicate that managing diversity is one of the priorities of the business leaders. A report on the workforces of the top 10 developed nations indicates the growth of the labor force between now and year 2020 can only be realized through diverse workforce populations.

Articles and journals have mentioned that organizations usually value the “diversity” approach. They claim that if this is managed well, organizations will realize competitive advantages.. Today, there is no article that reviews actual data supporting the linkage of managing diversity and organizational competitiveness.

Thus again this is where we would like this dissertation to play a big role in explaining that through the right approaches and process framework coupled with strategic business planning it is not far cries that improving organizational capability and productivity for an organization with such diverse workforce such as PEC-MY is all but possible.

PEC-MY , went through a very bumpy period during the second half of fiscal year 2013 as they were unable to sustain both their productivity and their failure cost as planned. Productivity was fluctuating and due to this, Failure Cost increased and was constantly above the challenged target causing alarming concern with top management on the capabilities of local management in managing staff and resources.

Being a conservative Japanese organization, it was very difficult for them to accept and adapt to localization concepts and ideologies as it may undermine their existing claim to manufacturing mastery and ingenuity. Productivity is after all about how the resources such as man, machines, methodologies, materials, measurements, environmental / space, time, knowledge, information, finance and energy are used effectively and efficiently.

Among other conditions and attributes that are needed in achieving sustainable productivity growth are for example:

- Understand actions to be taken to meet customer demand
- Develop a plan that identifies the work to be done
- Implement methodologies that can be used to effectively complete the tasks.
- Determine timeline of completion of each activity and task
- Identify and understand the required resources to meet the plan
- Provide required resources and initiate the plan
- Constant monitoring based on plans defined
- Take relevant actions against the variances triggered.

To remain competitive, most established Japanese manufacturing organizations use smart and effective methodologies such as Kaizen (Continuous Improvement), Poka-Yoke (Fool Proof system), JIT (Just In Time) which is another tool under

Lean Manufacturing, Kanban (What is needed?, Quantity needed? and where is it needed?) etc to reduce waste. These methods are not only proven to improve productivity but also to increase yield which in return gives higher yield and lowers the failure cost.

By implementing these programs, companies are also able to significantly introduce new products to market, ensure customer satisfaction and gain new market share. Improving manufacturing productivity involves collecting and analyzing data and making effective decisions. Ensuring the success of these operational excellence initiatives often depends on departments working together to share data and interpret it appropriately. This thesis will also show what are the collaborative activities needed in order to minimize loss of time to get the best real time solutions towards productivity optimization.

Diversity describes the similarities and differences that people have. Diversity encompasses complex differences and similarities in perspectives, identities, and points of view among members of an organization as well as among individuals who make up the wider community. Diversity amongst others includes race, ethnicity, gender, gender identity and expression, socio-economic status, nationality, citizenship, religion, sexual orientation, ability and age. Though these differences are important to understand, they are not to be used to predict any individual's values, choices or responses. To understand these differences, it involves recognizing and appreciating the intercultural dynamics, and the wide range of cultural options that diversity contributes to all. Valuing diversity involves understanding how the differences in identities relate to patterns of socialization and affiliation as it influences the way people understand and interpret the world.

Achieving a more diverse learning environment is seen as a way to improve education for all employees while promoting respect for each of us as individuals. Communication barriers lead to problems in a company attempting to create a diverse workplace. When a company hires employees whose first language is not English, employees may experience difficulties communicating with one another. This can lead to misunderstandings and a decrease in productivity. For example, if a manager gives instructions about completing a certain task to an employee who fails to fully comprehend the instructions, the employee may make mistakes if he tries to complete the task without receiving clarity. Hiring bilingual employees who can mediate and reduce language and communication barriers would help companies to overcome the communication problems that they face.

It is a fact that workplace diversity benefits an organization as a whole; however, some employees and managers may not react positively to changes made. Employees who oppose workforce diversity usually reject new ideas and make work environments more difficult. If the company doesn't handle these issues effectively, workplace diversity initiatives may not reap benefits to the company. The fear of accepting the various challenges of integrating diverse workforce in an organization is worth to be explained to all employees as at the end of the day, the goal achieved is highly desirable for the organization.

Although on paper workplace diversity may seem like a good idea, many companies experience challenges when attempting to implement changes. This is exactly what happened to PEC-MY as being a well-known and well established employer; they must develop strategies for implementation, analyze results and make necessary changes if results do not meet the established goals. The implementation process may present challenges and concerns to everyone involved,

and frustrations may arise because implementation is not as smooth as expected but yet it is something that is expected of the employer to find the best resources as well as timely solution for the issues.

Companies must effectively manage the changes in policies upon the implementation of workplace diversity. Actions such as taking the wrong approach to solving diversity issues such as communication, worker complacency due to unclear job description, lack of top down direction and many more are some of the challenges that would be faced by the employer in managing diverse workforce. According to Lawrence Herzog of H-Careers, managers face challenges when new employees from diverse backgrounds interact with long-standing employees. Many companies offer training programs to managers to help them effectively manage their newly diverse departments.

1.3 Research Objectives

The rationale of this thesis is to identify factors that contribute to the productivity fluctuation and increased failure cost incurred and to provide best solutions to overcome these issues with minimal cost to the top management. Among the objectives of this research papers are:

1. To uncover the reasons for the inability to meet the challenge goal in terms of productivity
2. To identify the causes those are contributing to the Failure Cost
3. Recommend immediate corrective action and solutions to overcome this fluctuating situation.
4. Recommend long term practical solutions that can be horizontally spread and used as a reference by other departments in the organization to address the gaps mentioned above.

Other Objectives:

1. Document and clearly monitor each and every process to have a clear and robust process framework.
2. Determine the level of autonomy of the different diverse workforce in contribution to work, decision making and initiation of action based on skill and competencies as well as look for seeking behaviours.
3. Identify factors that influence preferences, track discrepancies and document competencies using training and development matrices towards sustainable competent workforce.
4. Explore perceived consequences of delivering with “skilled workers” vs. traditional workers against interruptions of diversity and ethnicity.

1.4 Research Questions

As repeatedly mentioned throughout from the beginning, the “existence of workplace diversity, within an organization or workplace, indicates that the organization or workplace is heterogeneous in terms of gender, race, and ethnicity, in which employees possess distinct elements and qualities, differing from one another” (Robbins, 2003).

Some of the key questions that we want to answer through the submission of this thesis are as captured below:

1. What are the challenges in realizing productivity optimization at PEC-MY?
2. What are the gaps in the current processes that lead to failure in meeting the productivity and failure cost goals?
3. What are the impacts of work-force diversity at PEC-MY in terms of its deliverables to Productivity and Failure Cost?
4. What are the advantages of diversity to an organization?

1.5 Research Significance

We chose to write on the issues pertaining to Productivity Optimization in a diverse working environment due to a number of reasons. Among the most important reasons are the globalizations of human capital resources that are almost unavoidable. Diversity is just everywhere and anywhere. Hence, being salaried under the umbrella of Multi-National Corporations, we tend to be absorbed and orchestrated to mold in and perform our jobs as effective and as efficient as possible working among such diverse workforce.

Thus, it is only to our own advantage that we had such an opportunity to do this research at the right time and place.

Apart from this, it also gives us an overall picture about the workforce society around us. This thesis albeit giving us an opportunity to identify the solutions and best known methods to overcome certain issues, also opened our eyes to understand the shortcomings and issues faced by our fellow employees and colleagues from different nationalities. Despite the availability and readiness of technological advancement, there is just one too many intangible factors to be considered prior to making key decisions. It is exactly as the saying goes, “One Can only see as far as the eyes can observe”.

And our final significance is all about learning and the enthusiasm that we felt preparing this write up as we were one of the lucky ones to see and experience the results of our research implementation prior to our Viva Voce and final write-up submission. It is true that with persistence and hard work aligned with good guidance and teaching, will never yield bad results.