Develop a benchmarking model for PT.Telekomunikasi Indonesia (TELKOM)

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Develop a Benchmarking Model for PT. Telekomunikasi Indonesia (TELKOM)

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‘As for God his way is perfect.
It is God who arms me with strength and makes my way perfect’

(Psalm 18:30&32)
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<tr>
<td>ARTI</td>
<td>Akurat Responsive simpaTIk (Accurate, Responsive, Sympathetic)</td>
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<td>BPR</td>
<td>Business Process Reengineering</td>
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<td>CSF</td>
<td>Critical Success Factor.</td>
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<td>IBC</td>
<td>International Benchmarking Clearing House.</td>
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<td>IMS</td>
<td>Integrated Management System</td>
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<td>IPO</td>
<td>Initial Public Offering.</td>
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<tr>
<td>Kandatel</td>
<td>Kantor Daerah Telekomunikasi (Area Office).</td>
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<td>Kancatel</td>
<td>Kantor Cabang Telekomunikasi (Branch Office).</td>
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<tr>
<td>KSO</td>
<td>Kerjasama Operasi (Joint Operating Scheme).</td>
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<tr>
<td>KPI</td>
<td>Key Performance Indicator.</td>
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<tr>
<td>MDF</td>
<td>Main Distribution Point.</td>
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<tr>
<td>OA</td>
<td>Office Automation</td>
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<tr>
<td>PT</td>
<td>Perusahaan Terbatas (Limited company)</td>
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<tr>
<td>PN</td>
<td>Perusahaan Negara (State Owned company)</td>
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<tr>
<td>SISKAMAYA</td>
<td>Sistim Administrasi Kabel untuk Pemasaran dan Pelayanan (Computerised Service System).</td>
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<tr>
<td>STO</td>
<td>Sentral Telepon Otomat (Switching Office).</td>
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<tr>
<td>TQM</td>
<td>Total Quality Management</td>
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<tr>
<td>VSAT</td>
<td>Very Small Aperture Terminal</td>
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<tr>
<td>WCO</td>
<td>World Class Operator</td>
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<td>Witel</td>
<td>Wilayah Telekomunikasi (Regional Office)</td>
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ABSTRACT

PT. TELEKOMUNIKASI INDONESIA known as TELKOM is currently the major telecommunications operator in Indonesia. As the telecommunications businesses become more competitive, TELKOM is preparing itself to become a World Class Operator (WCO). The improvement approach being implemented in TELKOM is Organisational Restructuring, whereas other improvement approaches to be implemented are Total Quality Management (TQM), Business Process Reengineering (BPR) and Benchmarking.

In the absence of a customised benchmarking model, opportunity was seen to develop such a model for use by the organisation. The aim of this project is to develop a customised benchmarking model for TELKOM. The literature review showed that benchmarking is compatible with improvement approach being and to be implemented in TELKOM.

The benchmarking model developed incorporated TELKOM’s ideas. These ideas included the purposes of using benchmarking, TELKOM’s existing concepts related to benchmarking and several conditions and the environment pertaining TELKOM.

The methodology employed in developing the customised benchmarking model included reviewing existing benchmarking program in TELKOM; developing an initial model; testing this initial model via a pilot project; and refining the model to produce a customised model.

Analysis of the existing benchmarking program indicated benchmarking was being used as one of TELKOM’s strategies to achieve the World Class Operator status; to improve equipment quality; to prepare planning of infrastructure development; and to facilitate BPR. Besides that, TELKOM has three concepts related to benchmarking. These are: a benchmarking concept that is similar to benchmarking as defined in the literature; a strategy (steps) to achieve the World Class Operator status that has phases similar to the steps generally used in benchmarking; and the phases of BPR which complement benchmarking. These three concepts designated ‘TELKOM’s existing concepts’ were built upon to develop the initial benchmarking model.

The initial model was tested in a pilot project involving internal benchmarking between two organisational units of TELKOM. Experience in the pilot study showed that initial model was inadequate for wider application in its then form and that other factors needed to be introduced. The final customised model has two majors features namely the creation of a suitable Supporting Environment and a set of Procedural Steps.

The creation of Supporting Environment involves the promulgation by the headquarters the conditions, policies and regulations to facilitate benchmarking.

The Supporting Environment includes:

1. Check and prepare preconditions for benchmarking.
2. Incorporate benchmarking into an official program
3. Determine Critical Success Factors
The Procedural Steps are the technical steps of benchmarking that are performed by the organisational units that undertake benchmarking exercises. The particular steps involved in the author’s model include:

1. Benchmarking training
2. Timing of implementation
3. Determine benchmarking topics
4. Benchmarking team
5. Internal review
   - Process analysis and documentation
   - Process performance indicators
   - Identify process enablers
   - Report
6. Identify best practice
7. Prepare site visit plan
8. Benchmarking visit
9. Analysis
   - analyse partner's performance
   - identify gap and reasons
   - report and improvement target
10. Determine improvement target
11. Develop action plan
12. Recalibrate benchmarking.

The author’s models differ from others developed previously in its treatment of the supporting environment and inclusion of the timing of implementation in the procedural steps. With these features, the customised model should find application across TELKOM.

Nevertheless, some particular strategies are needed when implementing benchmarking to ensure its success. Those strategies are:

- Implementation of benchmarking is best started as part of a TQM implementation pilot project.
- Benchmarking is more efficient and effective if it is carried out first by undertaking external benchmarking involving several of the company’s units which represent the company and then followed by internal benchmarking among units within the company.

Benchmarking was also found to offer other benefits to TELKOM, such as setting the standard for acquisition of the telecommunication equipment and bringing about the cultural change.
Chapter 1

Introduction

1.1 Background

As competition enters into areas that were once the sole domain of telephone operating companies, telecommunication companies must embrace quality improvement to achieve the best practice. TELKOM is currently the major Indonesia telecommunications company and aims to achieve World Class Operator status by the year 2001. Benchmarking against world leaders is seen as extremely important to the company in becoming a world class service organization. Many companies have seen fit to develop benchmarking methodologies appropriate to their needs. Since TELKOM has a unique business nature and unique characteristics, it is appropriate that it adopts a customised benchmarking methodology.

1.2 Objective

The objective of this study is to develop a customised methodology for benchmarking appropriate to TELKOM and the Indonesian environment and then validate this model via a pilot benchmarking project forming part of a continuous improvement program being undertaken by TELKOM. The customised benchmarking methodology developed under this project is expected to become the standard methodology to be applied in developing and implementing future benchmarking programs across TELKOM.
1.3 Research Project Methodology

The research methodology will involve five main phases

1. Literature Study

This phase involves library research and study of the literature to develop knowledge in benchmarking theory and application.

2. Preliminary Research

This phase involves gathering information about areas of need for quality improvement within TELKOM, especially information that will assist in shaping the benchmarking program.

3. Field Study

This phase involves on-site investigation of TELKOM's operation. Information / data will be gathered during site visits to TELKOM in Bandung, Jakarta and Bogor - Indonesia. The purposes of site visits will be:

- To study the nature of TELKOM’s business and operational environment including existing benchmarking and other improvement programs. The information gathered during the visits will be used to develop an initial benchmarking methodology.
- To test the initial benchmarking methodology in a benchmarking pilot project. The pilot project will also be used to gather data which could be used to customise the model.

4. Analysis of results.

5. Completion of a report.

A suitable customised methodology will be recommended for TELKOM and recommendations made concerning the program’s implementation.
1.4 Thesis Outline

This thesis represents the report of the study. It is structured as follows:

Introduction
This introductory chapter defines the background, aim of project, significance of the studies, research methodology and contains a brief summary of each chapter.

Literature Review
This chapter explains the definition of benchmarking, then examines the evolution of benchmarking, discusses issues associated with its implementation and the types of benchmarking models employed. This chapter also discusses implementation of benchmarking in Indonesia and the ramification for benchmarking of Indonesian culture.

Overview of TELKOM
This chapter introduces TELKOM and discusses its development in the context of broader improvement initiatives. The contents describes TELKOM’s vision, mission, organization culture and objectives statements.

Review of the Existing Benchmarking Program in TELKOM
This chapter examine the status of the currently existing benchmarking program in TELKOM and state of knowledge of benchmarking within the organisation.

Development of a Customised Benchmarking Model for TELKOM
This chapter describes the method employed by the author to develop a customised benchmarking model for TELKOM. The method involves the
development of a initial model based on concepts already existing in TELKOM; testing the model in a pilot project in TELKOM; and then refining the model.

Discussion of Results
This chapter discusses the result of the pilot study and the choice of a customised benchmarking model for TELKOM.

Concluding Remarks
This chapter summarises the conclusions drawn from the study and recommends strategies for TELKOM to implement benchmarking program successfully.
Chapter 2
Literature Review

2.1 Introduction

This chapter explains the history and definitions of benchmarking, before examining the evolution of benchmarking into the many types of benchmarking that exist today. The various types of benchmarking and several examples of benchmarking models are discussed. These includes: the model developed by benchmarking pioneer (Xerox); the model developed by other telecommunication companies (AT&T and Motorola); the general model developed by a consultant (IBC ‘meta-model’) and finally the Monash Process which was introduced to some of TELKOM's employees. Furthermore the principles in designing benchmarking models and the developing of an effective benchmarking strategy are also discussed.

Companies combine other improvement approaches with benchmarking, therefore the compatibility of benchmarking with those approaches is also discussed. Other topics included are the need for benchmarking within telecommunication companies in monopoly situations, the state of benchmarking in Indonesia and how benchmarking relates to the Indonesian culture.
2.2 Brief History and Definitions

Most benchmarking literature recognises that benchmarking is fundamentally based on Sun Tzu's rules and Japanese word "dantotsu". Sun Tzu was a Chinese general who lived in the year 500 BC. Sun Tzu's rule is "If you know your enemy and know yourself, you need not fear the result of hundred battles". The Japanese word "dantotsu" means striving to be "the best of the best".

In the Western world, benchmarking practice in business and manufacturing was initiated by Xerox in 1979. Xerox pursued benchmarking from the perspective of a market leader rather than follower. Benchmarking was a catalyst for change within Xerox. That company's early attempts at benchmarking was termed competitive benchmarking. Xerox applied the approach to their manufacturing operations. The outcomes of benchmarking study were like shock therapy for Xerox's management. They discovered the selling price of their competitor's product was the same as their cost price while the competitor's product quality was much better then they assumed. The information gained from benchmarking was used to develop the company's "Leadership Through Quality Strategy". Increasingly benchmarking became seen as a tool to assist the whole company. The focus also gradually changed from cost comparison with competitors to include best class and the processes that lead to superior result. Now benchmarking has become a lifestyle within the company and is applied across all aspects of Xerox business (Cross and Iqbal, 1995, p.2). Since then, the concept of benchmarking has taken on radical new meanings.
Nevertheless "there is no reference to benchmarking in English international dictionary until 1987 when the word benchmark appears in the Oxford Reference dictionary which is believed as the beginning of today's use of the word benchmark" (Zairi and Leonard, 1994, p. 23).

The development of benchmarking necessitated the development of new definitions of benchmarking. As stated by Spendolini (1992), benchmarking as a term has been tweaked and customised by so many organisations, with the result that attempting to define it might serve to isolate or irritate those very organisations that have attempted to work with the process on a formal basis. Spendolini (1992) found there were forty nine definitions of benchmarking. Some of these definitions as cited in Bogan and English (1994, p.4) are as follows:

"A process for rigorously measuring your performances versus the best-in-class companies and for using the analysis to meet and surpass the best in class" (Kaiser Associates)

"A standard of excellence of achievement against which other similar things must be measured or judged" (Sam Bookhart, former manager of benchmarking at Dupont Fibers)

"Benchmarking is the search for industry best practices that leads to superior performance" (Robert Camp, a Xerox Corporation manager).

Following his review of the definitions, Spendolini (1992 p.9) constructed a comprehensive definition of benchmarking. This was as follows:

"Benchmarking is a continuous, systematic process for evaluating the products, services, and work processes of organisations that are recognised as representing best practices for the purpose of organisational improvement".
The main point emphasised on the above definitions is the search for best practice to improve organisation's performance. This implies that benchmarking is a continuous process since best practice is a moving target. Only Kaiser Associates's definition explicitly stated that benchmarking includes internal review (study on one's own company). Sam Bookhart's definition include the term "against" which also implies that benchmarking includes the notion of internal review. Without a deep understanding of Camp's and Spendolini's definitions, the notion of internal review may be neglected. But those definitions state that "benchmarking will lead to improvement and superior performance" which implicitly requires internal review to evaluate current practice.

2.3 The Evolution of Benchmarking

The use of benchmarking in business practice leads to development of the notion of generations of benchmarking and the technique integration into business management process.

According to Watson (1993), benchmarking has evolved to a fourth generation in its development as a business process. Its evolutionary process has resembled the classic "art transitioning-to science" process for development of a new management discipline as illustrated in the following figure:
Based on the ideas of Watson (1993:p.6-8), the various generations may be defined as follows:

The first generation of benchmarking may be considered as product oriented reverse engineering or competitive product analysis. The comparison target was the competitor's products and services with emphasis on the technical aspects such as their technical characteristics, functionality, and performance.

The second generation, competitive benchmarking, was refined into a science at Xerox during the 1976-1986 decade. Competitive benchmarking includes not only products or services comparison but also the processes associated with them.
The third generation of benchmarking was developed over the period 1982-1988. The limitation on sharing of process information with the competitors caused the quality leaders to seek another alternative. The result was they studied the similar processes used by companies outside their industry. This is based on the development of analogies between the business processes at two or more companies. For example, the delivery process of the computer company and electronics equipment or food and beverages companies.

The fourth generation of benchmarking is strategic benchmarking. Strategic benchmarking involves adapting strategies from external partners who participate in ongoing strategic alliances. Therefore it differs from process benchmarking in term of the scope and depth of commitment among those sharing companies.

A future generation of benchmarking lies in global applications where international trade, cultural and business process distinctions among companies are bridged and their implications for business process improvement are understood. Across the span of these generations of benchmarking, a fundamental shift has occurred in the model for competition among business.

The evolution of benchmarking described by Watson (1993) categorises on the types of benchmarking based on the benchmarking organisation's relationship with other organisations. On the other hand Zairi and Leonard (1994) describe the evolution of benchmarking as shown in figure 2.2. They do not emphasise the types of benchmarking but the integration of benchmarking as part of the business management process.
2.4 Types of Benchmarking


- Internal benchmarking
This involves comparison between units of the organisation in different locations, departments, operating units, country etc. The objectives of the internal benchmarking activity is to identify internal performance standards of an organisation. Internal benchmarking enables the organisation to identify its
best business practices which then may be adopted and customised by other parts of the organisation.

- **Competitive benchmarking**
  Competitive benchmarking involves identification of the products, services and the work processes of the organisation's direct competitors. The objective of competitive benchmarking is to identify information about competitor's products, processes, business results and then make comparison with those of the organisation.

- **Functional benchmarking**
  This means benchmarking a function performed by a company against that function as performed by industry leaders. The function may be manufacturing or human resource management. The objective of functional benchmarking is to identify best practices in any type of organisation that has established a reputation for excellence in the specific area being benchmarked.

- ** Generic benchmarking**
  Generic benchmarking is similar in many respects to functional benchmarking except that it focuses on multinational business processes (the very processes that are at the heart of the business). Once the critical business processes have been identified, these can become the subject of benchmarking against any organisation regardless of size, industry, or market place, providing that similar, generic processes exist there.
2.5 Benchmarking Models

As noted previously, there are numerous benchmarking models currently used. These extend from Motorola's five step model to the ten step Xerox model. The following are examples of benchmarking models developed by several companies, (cited in Zairi and Leonard, 1994, p.52-63).

The methodology developed by Xerox (Camp, 1989, p.17) entails five phases involving a total of ten steps as follows:

Planning
1. Identify what is to be benchmarked.
2. Identify comparative companies.
3. Determine data collection method.

Analysis
4. Determine current performance gap
5. Project future performance levels

Integration
6. Communicate benchmarking findings and gain acceptance.
7. Establish functional goals

Action
8. Develop Action plans.
9. Implement specific actions and monitor progress.
10. Recalibrate benchmarks.
There are no phases and steps that explicitly mention the steps for internal review and benchmarking visit prior to “determine current performance gap”. Even though this step implicitly requires internal review and examining best practice, these two steps need explicit mention to show the significance of these steps. Internal review means examining internal processes includes one’s own organisational practices, beliefs and underlying philosophies. Brenda Sumberg (cited in Day Jr, 1992, p.70), director of quality for Motorola University commented “Without a full grasp of your own activities, gathering data from other companies is useless, because you have no way of making any comparisons.” The strength of Xerox’s method lies in the integration phase and action phase. Benchmarking implementation needs the commitment from all levels in the organisation therefore benchmarking findings should be communicated to gain acceptance. Monitoring and recalibrating indicate the important role of benchmarking as improvement tool in the company.

The following summarises the methodology developed by American Telephone and Telegraph Company (AT & T):

- **First things first**
  1. Determine who clients are (process owners and planners)
  2. Advance the clients from literacy to champion stage.
  3. Test the environment. Identify commitment, expose barriers.
  4. Determine urgency. Avoid states or panic apathy.
  5. Determine scope and type of benchmarking required.
  6. Select and prepare team.
• Process

7. Overlay benchmarking process onto business planning process.
8. Develop benchmarking plan
9. Analyse data
10. Integrate the recommended actions.
11. Take action.
12. Continue improvement

The strength of this model lies in steps no. 3 and no. 7. Benchmarking will be successful in supportive environment. Therefore the barriers must be exposed and eliminated. Benchmarking will bring maximum benefit to the company if it fits with company's business planning. There is no step in this model that clearly implies comparison with other companies (benchmarking partner) for example identify benchmarking partner or determine the gap. This the weakness of this model.

Motorola, a Baldrige Award winner and frequent benchmarker, uses a straightforward five step process model which is easy to use and can be tailored to specific benchmarking projects. The Motorola Five Step Benchmarking process involves:

1. Decide what to benchmark
2. Find companies to benchmark
3. Gather data
4. Analyse and integrate result into action plans
5. Recalibrate and recycle the process

Even though this model looks simple, it comprises the basic elements of benchmarking. This model is suitable for company conditions and environment ‘ready to implement benchmarking’.
All those models can be boiled down to an even simpler generic 'meta-model' developed by the IBC (International Benchmarking Clearing House) and patterned after quality pioneer Walter A. Schewart's PDCA (Plan-Do-Check-Action) cycle. The four steps of IBC's Meta model are:

1. Plan
The planning step requires that the functional process to be studied, as well as the key data and information needed to measure it, be identified and the best benchmarking partner be located.

2. Collecting data
During the collection step, information is gathered - both internally and externally - and, in turn analysed.

3. Analysing data
This analysis phase reveals the performance gaps between "what is" and "what could be". This step also identifies best practice enablers, which are defined by IBC as "a broad set of activities that help enhance the implementation of a best practice"

4. Adopting and improving
The practices uncovered in the benchmarking study are implemented and monitored.

This model is a general model which may be modified to suit the organisation need. This model only covers the technical basis of benchmarking, whereas other preparatory stages should be institute to ensure the success of the benchmarking program.
Monash Process

Monash University has developed its own variant of the benchmarking process. The model introduced is termed the Monash Process and is described in Macneil (1994). This model had been introduced to some of TELKOM's employees via a benchmarking seminar and workshop in STT TELKOM (Sekolah Tinggi Telekomunikasi- School of Telecommunication owned by TELKOM) Indonesia (Rimmer & Macneil, 1994, p.11-12). It involves:

1. Establish enterprise mission, strategic plan, and critical success factors
2. Begin educating the work force, gaining commitment to change, and identify team
3. Choose benchmarking topics, identify key processes related to the topic and measure process performance
4. Identify and research best practice companies and establish relationships
5. Determine & standardised data collection
6. Visit partners, measure and describe partners' performance
7. Determine current performance gap and identify opportunities for improvement
8. Communicate benchmark findings to the work force
9. Establish and agree on implementation plan and schedule
10. Obtain necessary resources & implement specific actions
12. Recalibrate benchmark and recycle benchmarks
13. Integrate benchmarking result into strategic plan.

This model covers both the conditions for benchmarking and benchmarking techniques. However there is no model that is suitable for every organisation, therefore this model may need modification, dependant on the condition of target organisation.
Basically, the Xerox, AT & T, Motorola, and IBC models are focussed on benchmarking techniques. On the other hand, the Monash process includes the basic conditions needed (as stated in the first and the second step) to support the benchmarking program. The first and the second step of the Monash process are the basic conditions for any improvement program in any organisations. This model is suitable for organisations that are just about to start the improvement program. Assuming that Xerox and the other companies already have those basic conditions, their models are adequate for the needs of their companies.

The above benchmarking models except the Monash model are among the fourteen models compared by Zairi and Leonard (1994). The comparison were based on the seven essential criteria of benchmarking methodology. Zairi and Leonard (1994) suggests that there are many similarities between the different approaches used. The slight differences reflect the need for:

- better clarity
- explicit focus in each criteria
- logical progression, and
- completeness

In term of completeness the comparison shows that the Rank Xerox approach appears to be the most complete one (Zairi and Leonard, 1994,p.63). It indicates that the more extensive methodology is not always the most suitable, the latter depends on conditions applying within the company.
Inspite of the differences, Boeing, Digital Equipment Company, Motorola, and Xerox (Watson, 1995) were able to synthesise a general approach to benchmarking model even though they use different models. This is reflected in the template shown in figure 2.3. This template constitutes the core of benchmarking models which then may be developed in term of details.

![Figure 2.3 Benchmarking Template](Source: Watson, 1993, p.55)
2.6 Designing the Benchmarking Model

The variation in benchmarking models shows that many organisations have developed their own methods. Study of the literature indicates the benchmarking process varies from simply four steps to several major steps which are then broken down into several sub steps. It depends on how much detail the users want to emphasise in their models.

Most companies utilise a common approach that helps them plan the project, collect and analyse data, develop insight, and implement improvement actions. However the best approach reflects common sense. This is to adopt a benchmarking process that suits the organisation culture and the existing quality improvement approaches. Successful benchmarkers have found it is far more important to build on the managerial foundations and the culture in place than to blindly adopt another organisation's specific process. Organisations that excel in benchmarking almost always customise their own benchmarking process to reflect the organisation's culture, infrastructure, and leadership philosophy (Bogan and English, 1994,p.81).

Furthermore Bogan and English (1994,p.83) found that the benchmarking experts agree there is no common benchmarking process standard that is likely to establish itself soon. Corporate benchmarking managers contend that the benefits of a benchmarking process design that suits one's individual culture are far greater than the benefits of establishing a national process standard. Bogan and English (1994,p.83-84) identify three motivating factors that influence the weight of benefits toward the side of each organisation designing its own benchmarking process:
1. **Customised benchmarking processes complement the individual corporate philosophy toward performance improvement.** The leadership of every organisation must establish benchmarking's role within the organisation's continuous improvement effort. Whether benchmarking assumes a tactical or strategic role within the organisation, a customised benchmarking design ensures that the process complements the organisation's existing TQM system.

2. **Customised benchmarking processes support cultural differences among organisations.** The background of the majority of the people influence the personality of the organisation. Organisations dominated by people from an engineering background may prefer a benchmarking model that has many steps when fully and meticulously articulated. Organisation that are dominated by people from sales, marketing and service backgrounds will probably promote a simpler benchmarking process that reflects their preference for flexibility and individual improvisation.

3. **Customised benchmarking processes accommodate the need for organisation to feel unique.** The organisations often are reluctant to accept the new improvement systems that are not developed within the organisational environment. This will impede the benchmarking implementation. The benchmarking model that is customised to the organisation circumstances may overcome this problem.

These motivating factors are the principles in designing benchmarking model.

Besides those factors Zairi and Leonard (1994,p.51-53) have established seven essential criteria to evaluate benchmarking methodology. The seven criteria are:
1. Strategic focus
Benchmarking processes have to lead to the setting of objectives and stretch goals based on thorough understanding of customer requirements and process capability.

2. Operational focus
Whilst benchmarking processes are about determining gaps in performance and setting clear objectives, it is absolutely essential that they are translated into practice, through a focus on the process and its performance, at an operational level.

3. Customer focus
Market driven strategies are those strategies which focus entirely upon the customer. For a benchmarking process to be successful, it has to set clear customer-based targets and helps drive the performance of processes for optimising level of output which will represent value for the end customer.

4. Process focus
Benchmarking is only meaningful as a process if it focuses on the activity task. Many benchmarking exercises focus too much on the outcomes (i.e. the metric, the absolutes) without a clear understanding of what takes place, how it happens, why it is done in a certain way, etc. Processes reflect the strength of an organisation (i.e. capability to deliver, its flexibility to respond, etc) Such knowledge is crucial for setting stretch targets.

5. Link to TQM
Benchmarking is an integral element of TQM philosophy. It has a similar approach to internal methods of problem solving and quality improvement.
6. Continuous Improvement (PDCA)
Since benchmarking is an integral element of TQM, it has to reflect a culture of continuous improvement. Process based benchmarking exercises have to be repeated on regular basis to strengthen the process further.

7. Continuous learning
Benchmarking is about newness and innovation. It is doing the right things (determined by the clear establishment of market needs) and doing them right (by inspiration from leading organisations and through a control capability of procedures). Benchmarking is a futuristic approach; it is concerned with the next set of objectives.

2.7 The Development of An Effective Benchmarking Strategy

Among the companies who have become very successful in incorporating benchmarking into their corporate philosophy structure are: Federal Express; American Express; L.L. Bean; General Electric; Xerox; Dow Chemical; Honda Motor; Procter and Gambler; Apple Computer and many others. There have likewise been many corporations who tried benchmarking as a component of their standard operating procedures and failed to make it successful. (Swift, et.al,1995,p.49)

One of the problems flows from lack of proper planning. Benchmarking will not offer easy rewards for little preparation. The organisation should conduct a "benchmarking readiness audit" as proposed by Macneil et al (1995, p.70-71) and outlined in Figure 2.4. This will help the organisation to evaluate and then to prepare benchmarking exercise. "The benchmarking readiness audit has two parts. First, it introduces members of the organisation to benchmarking. In
essence, it is a preliminary training exercise to inform future champions about the why and wherefores of benchmarking. Second, it is a check list of factors affecting organisational readiness to benchmark. The business which has problems but no strategy to deal with them is not well positioned to begin benchmarking" (Macneil et.al,1995, p.70-71). Therefore the Monash benchmarking process includes establishing the mission, strategic plan and gaining commitment to change as benchmarking step. Without those basic conditions benchmarking will be meaningless.
Figure 2.4 Model of the benchmarking readiness audit

(Source: Macneil at al, 1995, p.72)
Furthermore, according to Zairi and Leonard (1994, p. 43-44) the development of an effective benchmarking strategy needs:

1. The starting point: Having a clear vision.

Many organisations should be conscious of their mission, what it seeks to achieve and what mechanism it will use to make sure its plans are on course. The development of benchmarking strategy therefore, has to start with:
- the purpose of the organisation - the reason it is in the marketplace
- a set of values - what the organisation believes in and its guiding principles
- a mission/vision - defining the role of the organisation and what it seeks to achieve
- objectives
- strategies for achieving Critical Success Factors (CSFs)
- measure of progress on achieving CSFs and
- action plan leading to desired business results

2. A clear understanding of the business process

The conversion of mission/CSFs into realisable objectives demands a good understanding of the business processes which are the key in leading to the achievement of CSFs and which are often referred to as Critical Processes (CPs). Critical processes have to be managed properly and closely linked to CSFs so that business results can be achieved.

3. Using TQM as a competitive weapon

Benchmarking is the best tool for introducing improvement into the strategic planning aspects of any organisation and for using TQM as a competitive weapon. Benchmarking brings about the discipline of ensuring that:
- the strategic goal are attainable; and
• there is a strong link between the outcomes (CSFs) and the means (CPs).
Benchmarking takes the market/customer as a starting point and works inward ensuring that the business process is capable of delivering consistently what the market/customer requires.

4. Linking benchmarking to the continuous improvement ethos
There are three major determinants of competitiveness:
• quality - product features, service features, customer care features
• delivery - timeliness, reliability, consistency; and
• cost - total cost of delivery to the customer and incremental improvements

Those competitive criteria can only be achieved by:
1. adopting a TQM approach for competing (as means to drive the business process);
2. instigating a continuous improvement ethos; and
3. using benchmarking as a vehicle to direct the organisation towards world class competitiveness

2.8 Selecting Benchmarking Topics

Every process and function within the organisation can be benchmarked. Since benchmarking is expensive and time consuming, it is necessary to choose a set of topics which have a significant impact on the organisation. Such topics are termed Critical Success Factors (CSFs). According to Spendolini (1992), most organisations do not have a formal definition of CSFs but use the term to encourage employees to use the benchmarking process selectively on issues of critical importance to the organisation. CSF is a term referring to subjects that are significant enough to warrant the use of the benchmarking process (Spendolini,
1992, p. 68). Therefore benchmarking topics are usually chosen from an organisation's critical success factors.

Watson (1993, p. 260) defines Critical Success Factors as "quantitative measures for effectiveness, economy and efficiency; those few activities where satisfactory performance is essential in order for a business to succeed; characteristics, conditions, or variables that have direct influence on customers satisfaction with a specific business process; the set of things that must be done right if a vision is to be achieved". John Rokhart, Director of the Center for Information Research at Sloan School of Management at Massachusetts Institute of Technology defines Critical Success Factors as "the limited number of areas in which results, if they are satisfactory, will ensure successful competitive performance for the organisation. They are those few key areas where 'things must go right' for the business to flourish" (cited in Macneil et al, 1995, p. 120).

CSFs are often related to time, cost and quality. The CSFs of a photo processing business, for example, may be competitive price, superior product quality and customer convenience. Whereas the CSFs of an electronics company may be different eg, superior customer relations, innovative research and development, new product, technological capability and efficient facilities (Macneil et al, 1995, p. 120).

Furthermore Zairi and Leonard (1994, p. 75) also suggest the benchmarking exercises need to be explicitly linked to the achievement of the key business priorities. This means having a clear understanding of:

- what the organisation is trying to achieve;
- where the organisation is against that goal;
- critical success factors
- the key business process which has the strongest correlation with the CSFs; and
- the relationship between processes (enablers) and results.

Macneil et.al. (1995) illustrates the procedure for benchmarking topics in figure 2.5

![Diagram of benchmarking process]

Figure 2.95 Selecting Benchmarking Topic
(Source: Macneil et al, 1995,p.119)

Clearly, based on the ideas of Zairi and Leonard (1994) and Macneil et.al (1995), organisation's CSFs should be linked to its core competencies and key business processes. For effective benchmarking it is necessary to understand which key business processes have an impact on CSFs, then determine
performance indicators to measure the effectiveness of those processes and identify the process enablers.

Key business processes are "all the processes that contribute to the functioning of a business, some are more critical to the business operation. These key business processes represent core functional efforts and are usually characterised by transactions that directly or indirectly influence the external customers' perception of the company" (Watson, 1992, p. 18). Therefore, the organisation must break the CSFs down into component processes of manageable proportion to determine key business processes.

Key Performance Indicators represent a set of measures focusing on the aspects of organisational performance that are most critical for the current and future success of the organisation (AusIndustry, 1995, p. 10).

Whereas process enablers are activities that facilitate the performance improvement observed at best-in-class benchmark company (Camp, 1989, p. 196). For example, in a distribution process capable of picking and packing orders faster than any other, an enabler could be the stocking locations of frequently ordered items.

2.9 Benchmarking and Improvement Approaches

According to Bogan and English (1994, p. 179) there are four fundamental approaches to improving performance. "These four cornerstones of improvement are continuous improvement or TQM, managed reform, organisation restructuring, and process reengineering. Benchmarking is
approaches; it enables both incremental change and major magnitude breakthrough”.

Different companies tend to emphasise different dimensions in their improvement effort. Nevertheless, the four fundamental approaches to continuous performance improvement can be represented on a simple matrix or conceptual map. The axes of this map relate the degree of change (ie. tactical or strategic) with the pace and longevity of change (ie., immediate or extended) (Bogan and English 1994,p.180).

![Figure 2.6 Dimension of Change](source: Bogan & English, 1994,p.180)

Figure 2.6 shows the two dimensions of change yield four possibilities for performance improvement:

- Immediate tactical change (ie., continuous improvement/TQM)
- Immediate strategic change (ie., organisational restructuring)
- Extended tactical change (ie., managed reform)
- Extended strategic change (ie., process reengineering)
Below is a discussion of the relationship between benchmarking and two of those four performance improvement approaches:

- **Immediate Tactical Change** (Total Quality Management)

  The essence of benchmarking is the continuous process of comparing a company's strategy, products and processes with those of world leaders and best-in-class organisations in order to learn how they achieve excellence, and the setting out to match and even surpass it. For many companies benchmarking has become a key component of their TQM programs. According to Zairi and Leonard (1994) "there is a great interdependency between TQM principles and benchmarking; in fact they are an integral part of one another. Having TQM in place will enable organisations to use the art of benchmarking. Benchmarking is not a process where success is achieved in one leap. It is about incremental change and the gradual process of moving from continuous improvement to continuous learning. Using total quality improvement principles and problem solving techniques, the gap identified by benchmarking can be closed gradually to put the organisations at the same levels as their competitors" (Zairi and Leonard, 1994, p.190-191). "The link between benchmarking and TQM is strong. The Monash survey found that a majority of firms using benchmarking introduced it to complement TQM or other continuous improvement philosophies. Benchmarking and TQM are complementary. TQM giving internal quality focus while benchmarking targets externally to drive improvement" (Macneil et al, 1995, p.16).
Extended Strategic Change (Business Process Reengineering)

According to Bogan and English (1994, p.185) "Reengineering starts with a clean slate and with the underlying assumption that there are no sacred cows. Reengineering strives to reinvent how works is done; consequently, it promises dramatic breakthrough with spectacular performance improvements of 30 to 90 percent. Best practice benchmarking, the "power tool" for leveraging other leading organisations' experience, learning, and innovation, is a principal instrument for achieving breakthroughs that produce such spectacular results. Benchmarking is like the fabled looking glass that took Alice into Wonderland; it provides the mechanism for improvement teams to access the larger world outside their organisations. Benchmarking springs open the door to the collective treasures of highly effective practices, approaches, and system perfected in other industries and operating cultures. These experiences and insights frequently provide the key or inspiration for reengineering teams to completely reinvent their organisation's own core processes and the systems". Similarly, Baker (1995, p. 89) believes that "both reengineering and benchmarking are complementary and not in competition. Through reengineering, the organisation uses all its internal brain power to eliminate waste and non value added operations to increase process efficiency. In benchmarking, one uses worldwide brainpower to make step function improvements using techniques that have already been perfected. In fact, that's the goal, use everything at your disposal to speed up learning and constructive change".

Furthermore Bogan and English (1994) describe the role of benchmarking at various steps in the reengineering process as shown in the table 2.1
<table>
<thead>
<tr>
<th>Seven-step reengineering process</th>
<th>Tools applied</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Step 1.</strong> Identify the value added, strategic process from a customer perspective</td>
<td>Performance benchmark analysis (cost, quality, cycle time, etc). Customer satisfaction benchmark analysis. Value analysis.</td>
</tr>
<tr>
<td><strong>Step 2.</strong> Map and measure the existing process to develop improvement opportunities.</td>
<td>Flow charting and process management tools. Performance measurement tools.</td>
</tr>
<tr>
<td><strong>Step 3.</strong> Act on improvement opportunities that are easy to implement and are of immediate benefit.</td>
<td>Informal benchmarking for short term solutions; Implementation planning tools.</td>
</tr>
<tr>
<td><strong>Step 4.</strong> Benchmark for best practices to develop solutions, new approaches, new process designs and innovative alternatives to the existing system.</td>
<td>Best practice benchmarking among processes and performance system</td>
</tr>
<tr>
<td><strong>Step 5.</strong> Adapt breakthrough approaches to fit your planning organization, culture and capabilities.</td>
<td>Process redesign tools, implementation tools.</td>
</tr>
<tr>
<td><strong>Step 6.</strong> Pilot and test recommended process redesign.</td>
<td>Training, and pilot test technique. Apply lessons learned from past successful pilot.</td>
</tr>
<tr>
<td><strong>Step 7.</strong> Implement the reengineered process(es) and continuously improve.</td>
<td>Train employees. Implementation techniques. Use benchmarking to maintain continuous improvement process.</td>
</tr>
</tbody>
</table>

2.10 Benchmarking in Telecommunication Company in a Multinational /Monopoly Situations.

Zairi and Leonard (1994,p.181-185) discussed benchmarking in telecommunication companies as follows:

"Benchmarking in large organisations such as multinationals or companies that are in monopoly situations is highly applicable. Most large organisations are either retracting or becoming global and as such they are applying benchmarking very aggressively to achieve their goals.

One major sector where benchmarking is being applied significantly is in telecommunications. This sector is growing despite the world recession because the volume of telephone traffic is still increasing and most operators are aspiring to become global. This is spurred on by the fact that governments are relaxing the rules and privatising their state run telephone companies to encourage competition. In addition, the explosion of new technology means that costs can be reduced drastically, efficiency improved and the quality of services can become much better.

Advanced technologies now used in telecommunications include the introduction of fibre optic cable and digital exchanges, the use of intelligent networks combined with advances in radio and semi-conductor technology. Competitiveness in telecommunications is expected to rise as more and more privatisation takes place. According to Booz Allen Hamilton Consultants (Taylor, 1992 cited in Zairi,1994, p.184), between 1991 and 1993, telecommunication companies in a further 26 countries, in total, responsible for 95 million telephone lines, were expected to be privatised. The newly formed
companies will start to look at global customers through acquisitions, strategic alliances or as stakeholders.

The big telecommunication operators such as British Telecom (BT) and American Telephone & Telegraph Co (AT&T) use strategic benchmarking aggressively. BT for example, are developing their 'cyclone' program which is a network intended to help international corporate customers by offering them text, data and video services as part of a 'virtual' private network. These virtual private networks through the use of special software, common transmission and switching facilities can be shared between different customers. BT intends to capture a big slice of the growing market for 'outsourcing' where they will be expected to manage private networks of international corporations that have subsidiaries and overseas offices all over the world. Outsourcing is thought to bring savings of up to 20% off the corporate communications bill (Williamson, 1992 cited in Zairi, 1994, p.184). Large companies are increasingly outsourcing telecommunication networks because this is not considered as a core activity in their business. AT & T on the other hand who invented cellular technology and are a leading supplier of cellular equipment, are developing strategic alliances to dominate globally in long distance and international markets and also in equipment manufacturing (Dickson, 1992 cited in Zairi and Leonard, 1994, p.184).”

Telecommunication companies realised advantages of benchmarking. They formed benchmarking consortia. An example is The Telecommunication Benchmarking Consortium in the USA, which is made up of approximately eighteen companies, many of which is in direct competitors with one another. This group established an initial charter that, in part, specifies the desire to benchmark major processes of common interest (Spendolini, 1992, p.19).
2.11 Benchmarking in Indonesia

Like in other countries, benchmarking become a "buzz word" among Indonesian managers. A survey (Sujatmaka et al., 1995) of executives of 32 major companies in Indonesia shows that 29 respondents routinely informally discuss new management concepts including benchmarking. The more significant topics are chosen selectively based on their needs to be examined on formal discussion. Moreover the survey also stated that some of those companies combined benchmarking with other improvement approaches.

Few details of research and publications on the application of benchmarking in Indonesia were uncovered by the author's research. Difficult to know whether benchmarking exercise in those companies are in accordance with established benchmarking concepts. The following example is one where benchmarking was simply used to compare the salaries in one company to that in other companies. "One of the principles in Bank Bali that is impossible to expect the employees to serve the customer properly if their welfare is neglected. Therefore the company pays a competitive salary and fringe benefits to the employees. Bank Bali is benchmarking its employees salary with other prominent banks, so that the Bank Bali employees realise they are paid satisfactorily" (Wibowo, 1995).

Another reference to the benchmarking concept cited in Republika (1995) that it is "the strategy to find out the most advantageous business operation by seeing operational system of best companies". Furthermore it was stated that the industrial tours that are very popular nowadays constitutes a form of benchmarking. Such industrial tours often lack of the structure of best practice benchmarking and neglect the important steps such as internal review
and planning (steps in benchmarking). Andersen (1995) argues that this form of benchmarking which he terms "industrial tourism" has discredited the benchmarking process.

If the Bank Bali approach and the aforementioned industrial tours are to be considered benchmarking, the benchmarking procedure associated with these visits may simply entail a comparison of figures without any prior internal review of benchmarking topics. J. W. Junardi, a former CEO PT USI-IBM Indonesia; now Vice President of Universal Bank in Indonesia, observes that benchmarking practice in Indonesia is limited to figures comparison without examining the processes involved thoroughly. The benchmarking template (figure 2.3) clearly shows that "benchmarking is more than just a comparison between two or more organisations. It shows that a study begins (top left) with the question "What should we benchmark?". This really means: "What area of business is delivering less than the performance level required?". It calls for a detailed understanding (bottom left) of how results are achieved; what processes, practices, methods, etc. deliver what result? This needs to be clearly understood before any worthwhile comparison can be made" (Zairi and Leonard, 1995, p. 75).

2.1.2 Benchmarking and Indonesian Culture

As well as the culture of the organisation, it is necessary to take into consideration the culture of the country when introducing a new management approach such as benchmarking. Knowing the culture provided the opportunity to manage the culture to ensure the success of implementation of benchmarking.

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1 Discussion with Mr. J.W. Junardi in Wollongong, 18 May 1996.
A study on work related values and national cultural differences carried out by Geert Hofstede has become a benchmark for study of the culture and organisation. Hofstede (1991) defines culture as 'the collective mental programming of a group of people'. He says that people are all programmed to think, feel, and behave in particular ways as part of community. His research deals with "work related values" that shows the relationship between culture, values and organisational behaviour for different countries. He identified and scored four dimensions:

- Individualism-Collectivism
- Power distance
- Uncertainty avoidance
- Feminine-Masculine

These have served to establish a response and values profile for every country. He categorised Indonesia as a collectivist, high power distance, medium uncertainty avoidance and feminine workplace. However in the author's view this assessment to be somewhat superficial and requires further examination. Each dimension will now be looked at in turn.

### 2.12.1 Individual-Collectivism

Individualism is a state of mind in which people view themselves first as individuals and believe that their own interests and values take priority. Collectivism is characterised by a tight social framework in which people are committed to the group and share its interests, norms and beliefs. The key features of collectivist society in the workplace are:

- The employer-employee relationship is perceived in moral term, like a family link.
- Hiring and promotion decisions takes employees’ in-group into account
- Management involves management of groups
• Relationship prevails over task.

(Hofstede, 1991, p. 67).

In the face of Liddle’s (1996) recommending Asian should leave their collectivist philosophy and move to western individualism, some Indonesians argue for and against this opinion. Mubyarto (1996) in particular argues that Indonesian philosophy is not a dichotomy of individualist and collectivist. Rather it is based on three concepts: individual, community and God drawing from the Indonesian concepts of Pancasila (translated as the ‘Five Basic Principles’). He argues that Indonesian “kebersamaan dan kekeluargaan” (togetherness and family spirit) is not the same as being collectivist in a communist or a Fascist society. Mubyarto’s (1996) article promotes a concept of an ideal society which is based on Pancasila. He did not give examples of the reality in Indonesian society. Soemarwoto (1996) questions whether economic and political practice are based on Pancasila. He argues and gives examples of some practices in Indonesian society that contradict the philosophy. The examples given by Soemarwoto (1996) demonstrate his perception that individualism is equal to egoism.

Suhardono (1996) argues that based on empirical research, Indonesian society has become individualist. Gregorius Pratiknya (1996) says that “kebersamaan” (togetherness) in Indonesia does not mean the spirit of teamwork. It means a dependence or reliance on others.

This discussion implies that whether Indonesian culture is individualist or collectivist is arguable. In some instances Indonesian culture contains individualist characteristics as well as collectivist characteristics. Furthermore the concepts concealed in those characteristics may have a different meaning. For example the concepts of “kebersamaan” (togetherness) principles and the
spirit of teamwork as discussed previously. On balance, it seems more important to identify the characteristics without grouping them into collectivist or individualist.

As a developing country, learning from developed countries is common for Indonesian organisations. Indonesian’s concept of “kekeluargaan” (family spirit) reflects the fact that relationship prevails over task characteristics. The idea of benchmarking is also about learning and sharing information and knowledge. This idea is compatible with Indonesian approaches of “kekeluargaan” and “kebersaman” (family spirit and togetherness). Indonesian “kekeluargaan” (family spirit) principle applies where personal relationships prevail over tasks and should be established first. In this regard, the ability to establish informal contact and a personal relationship with the benchmarking partner is necessary when choosing an Indonesian organisation benchmarking partner.

2.12.2 Power Distance
This dimension reflects the extent to which less powerful members of an organisation expect and accept an unequal distribution of power, i.e., the degree to which employees accept that their boss has more power than they do. Some of the key features of a large power distance in the workplace are:

- Less powerful people should be dependent on the more powerful; in practice, the less powerful people are polarised between dependence and counter dependence.
- Hierarchy in organisations reflects the essential inequality between higher ups and lower-downs.
- Centralisation is popular
- Wide salary ranges between top and bottom of the organisation
• Subordinates expect to be told what to do
• The ideal boss is a benevolent autocrat or a good father
• Privileges and status symbol for managers are both expected and popular.

(Hofstede, 1991, p.37)

Indonesia also has a high power distance index (78) that is at variance with one of the new management approaches which is empowerment of the work force. Gregorius Pratiknya (1996) also observes that generally Indonesian organisation has a high organisation hierarchy and high power distance. He observes Indonesia needs flatter organisations where relationship is not based on power over the subordinates but be based on function and expertise. This is where empowerment takes place. Hamel and Prahalad (1996, p.157) argues that “employees must be given the tools they need to contribute to advantage-building efforts. Benchmarking is among the skills tool kits that must be taught to the employees. Motorola is an example of embedding those skills in its work force. It realised it was no help asking them to build new advantages with their bare hands. Bare handed empowerment is really no empowerment at all.”

2.12.3 Uncertainty Avoidance

Uncertainty avoidance is the extent to which people feel threatened by ambiguous situations and the degree to which they try to avoid these situations. The key features of strong uncertainty avoidance are:

- Emotional need for rules, even if these will never work
- Time is money
- Emotional need to be busy; inner urge to work hard
- Precision and punctuality come naturally
- Suppression of deviant ideas and behaviour; resistance to innovation
- Motivation by security and esteem or belongingness

An emotional need for rules, even if these will never work, is a common feature in Indonesian government organisation and government owned companies. Every program is officially decreed. Therefore it is necessary for the organisation itself to develop and own benchmarking steps that are suitable for the organisation’s needs. Another feature of strong uncertainty avoidance in the workplace is suppression of deviant ideas and behaviour as well as resistance to innovation. This may become the pitfall for benchmarking. However benchmarking is not about blindly adopting other organisation’s practice but adapts it into one’s own organisation. It is about learning of one’s own organisation through internal review and learning from external organisations through benchmarking visits. Carla O’Dell (1992) argues that benchmarking against outside organisation is needed to overcome the NIH (Not Invented Here) syndrome. Benchmarking offers evidence, not theory, that ideas of the NIH type can work. This will help to convince sceptics, overcome resisters, and convert fence sitters-increasing the odds of making new large changes. Benchmarking takes thinking outside normal channels (also known as ruts), to look at brand new approaches that might never have occurred to people had they not stepped out of their well-worn thinking (O’Dell, 1996, p.2).

2.12.4 Masculinity-Femininity
Masculinity is the extent to which the dominant value of a society emphasises assertiveness and the acquisition of money and other material things. Femininity is the extent to which the dominant values in the society emphasise relationships among people, concern for others, and interest in quality of work life.
The key features of a feminine society in the workplace are:

- Manager use intuition and strive for consensus
- Stress on equality, solidarity and quality work of life
- Resolution conflicts by compromise negotiation

(Hofstede, 1991, p.96).

The feature of feminine society also reflects features of the “kekeluargaan” (family spirit) principle and the “musyawarah dan mufakat” (consultation for consensus) principle. These attributes will facilitate implementation of benchmarking in Indonesian institutions.

A survey carried by Swasembada (Sujatmaka et.al, 1995) on managers of 31 companies in Indonesia shows that 25 managers admitted their employees were adaptive to the new management approaches; whereas 2 managers admitted their employees were less adaptive; and employees in 4 other companies were moderately adaptive.

2.13 Conclusion

The use of benchmarking in business practices has led to the development of several types of benchmarking. Benchmarking models are shown to vary from some with five steps to some with ten steps plus some intermediary stages dependent on conditions and the needs of the companies. Therefore the motivating factors, principles and several criteria are very important in designing a suitable benchmarking model. This means that the benchmarking framework to be followed should not necessarily be based on other organisation models. It may be based on the concepts or approaches that the organisation has already adopted, which may then be formulated into an appropriate model.
Successful benchmarking implementation requires the readiness of the organisation to change, the correct benchmarking methodology and benchmarking's compatibility with other improvement approaches adopted by organisation. Benchmarking exercises need to be explicitly linked to the achievement of the key business priorities to get the maximum effect for the organisation. The effectiveness of benchmarking may be maximised if it is compatible with other improvement approaches.

The literature study also shows that benchmarking is suitable for organisations in monopoly situations and that is widely used in telecommunication industry. Hence the approach should be applicable to TELKOM.

However, its use in Indonesia is in the embryo stage. Without properly understanding benchmarking concepts, benchmarking as a term may be misused. Nevertheless, benchmarking suits the Indonesian culture.
Chapter 3
Overview of TELKOM

3.1 Introduction

This chapter examines the company profile of TELKOM. This is because the company profile is one of the major factors to be considered in developing improvement programs. The company profile\(^2\) includes information on the company's history; the corporate structure; recent development; business and business processes.

The company's vision, mission and objectives, and corporate culture are the foundation of improvement programs. The company's existing Total Quality Program is important in instituting change and will be explored to determine the status of program and the planned future steps. This will provide a strategic context in which to implement benchmarking.

3.2 History and Corporate Structure

In 1884, the Dutch colonial government established a private company to provide postal services and domestic and subsequently, international telegraph services. Telephone services were first made available in Indonesia in 1882 and until 1906 were provided by privately own companies pursuant to a 25 years government licence.

\(^2\) Summarised from 'TELKOM’s prospectus (1995) for European Offering Circular'.
In 1961, most of these services except Sumatra region were transferred to a newly established state owned company. The government separated postal and telecommunication services in 1965 into two state owned companies, PN Pos dan Giro and PN Telekomunikasi, respectively.

In 1970, services in Sumatra became part of PN Telekomunikasi which then was known as Perusahaan Umum Telekomunikasi (Perumtel).

In 1974, it was further divided into two state owned companies, Perumtel which provided domestic and international telecommunication services and PT Inti which provides telecommunication equipment manufacturing.

In 1980, the international telecommunication business was transferred from Perumtel to Indosat.

In 1991, the Government transformed Perumtel from a "Perusahaan Umum", a state owned company with public services as its principal corporate purpose, and renamed it Perusahaan Perseroan (Persero) PT. Telekomunikasi Indonesia, also known as TELKOM.
3.3 Business Environment and Recent Development

Prior to 1995, TELKOM's business was segregated into 12 regional operating units, known as "Witels" (Wilayah Telekomunikasi), which were centrally controlled by TELKOM's headquarters in Bandung, West Java. Each witel had a separate management structure responsible for all aspects of TELKOM's business in their respective regions, from the provision of telephone services to property management and security, although they were not separate profit centres.

In 1995, TELKOM restructured its operations by eliminating the Witel structure and creating seven Regional Divisions, which provide telecommunication services in specific regions, and the Network Service Division which provides domestic long distance services through the operation of TELKOM's nationwide backbone transmission network. Each Division functions under a separate, decentralised management team and as a separate cost or profit centre, maintaining separate internal financial statements.

Organisation units below the Division are the Kandatel, Kancatel and STO. TELKOM has 96 Kandatels, 609 Kancatels and 991 STOs.

Kantor Daerah Telekomunikasi (Kandatel) is an TELKOM's Area Office that is the third layer organization units. It provides services of TELKOM's business and to function as subordinate to Kancatel and STO.

Kantor Cabang Telekomunikasi (Kancatel) is TELKOM's Branch Office that is the fourth layer organization unit. It provides the same services with Kandatel.
Some of the STO (Sentral Telepon Otomat- Switching Office) are directly under Kandatel and some are under Kancatel. Most STOs function as switching centers, but some of them also provide several of TELKOM services. STOs that function only as switching center are grouped within Kandatel or Kancatel whereas the STOs that provide other TELKOM services are considered as separate organisations units under either Kandatel or Kancatel. Whether the organisation unit is Kandatel or Kancatel is determined based on geographic (broad of the area) and number of customers.

The organisation hierarchy also shows the hierarchy of authority. The organisation structure of TELKOM is shown in figure 3.1

Figure 3.1 TELKOM's Organisational Structure.
In June 1995, TELKOM entered into memoranda of agreement and initialled drafts of joint operating schemes or "Kerja Sama Operasi" (KSO) with five consortia to form joint operating schemes concerning the KSO Divisions. Each company has sought to have a different international telecommunication operator as an equity participant in each KSO to help provide sufficient financial and managerial resources to accelerate the development of each KSO Division. Each KSO Investor is required to finance and construct an agreed minimum number of installed lines within the area of KSO division, and to manage and operate the KSO Division through a KSO Unit in the name of TELKOM, for and on behalf of TELKOM and the KSO Investor for a period of 15 years, commencing January 1 1996.

TELKOM believes that these KSO arrangements will reduce the capital expenditure burden otherwise required of TELKOM in the KSO Divisions and will therefore result in improved cash flow from TELKOM's restructured operations. TELKOM also expects to develop additional operational and management expertise from these arrangements.

Similar to most telephone service providers worldwide, TELKOM and its operations are subject to government regulation. The Ministry of Tourism, Post and Telecommunications defines the scope of the company's exclusivity, formulates and approves tariff policy and structure, determines TELKOM's universal service obligation and otherwise controls many factors affecting TELKOM's competitive position, operation and financial condition.
3.4 TELKOM's Business

TELKOM is the principal provider of telecommunication services in Indonesia providing local and long distance domestic telephone services through 2.76 million lines in service as of June 30, 1995. TELKOM's operating revenue for the year ended 1994 was US $1,800,283 and its net income was US.$ 353,763. As June 30,1995, TELKOM had 43,183 employees, of which 9,065 were management and administration, 3,020 were engineers, 19,058 were technicians, and 7,339 were operations personnel and 4,701 were other personnel.

TELKOM either directly provides, or has investments in companies that provide, a wide range of other telecommunication services, including mobile cellular, data communications and leased line services and satellite services.

As part of the restructuring program, the Company's business activities were divided into three main areas: (i) primary (ii) related business and (iii) business support or corporate overhead services.

The Company's primary business is to provide local and domestic long distance telephone services.

Related businesses include mobile cellular services, leased lines, telex, satellite transponder leasing, VSAT and certain value added services.

Business support services include information services, repair, training, property, and research and development.
With effect from January 1, 1996, the Ministry of Tourism, Posts and Telecommunications has granted TELKOM:
(i) The exclusive right to provide local fixed line and fixed wireless telecommunication services nationwide, including services provided for and on behalf of TELKOM pursuant to joint operating schemes, for a minimum 15 years and (ii) the exclusive right to provide domestic long distance telecommunications services nationwide for a minimum of ten years.

The TELKOM business structure is summarised in figure 3.2

Figure 3.2 TELKOM's Business
(Source: TELKOM, 1995, p.VII-38)
3.5 TELKOM's Business Process

Associated with current restructuring, TELKOM in an internal minute (TELKOM, KD.32/PS150/YASA-00/94) has identified a number of organisation processes that need improvement. These are enumerated below and include:

a. Executive processes including:
   1. Board of Directors functional arrangement.
   2. Strategic planning
   3. Strategic control
   4. Management of change
   5. Cooperation strategy
   6. Corporate level policies
   7. Organisation leaders development program
   8. Business planning

b. Network and forecast processes including:
   1. Demand forecasting
   2. Network planning
   3. Network design
   4. Construction
   5. Project management

c. Operational processes including:
   1. Network management
   2. Network operations
   3. Network customer service
   4. Network logistics
   5. Network billing
   6. Network maintenance
d. **Marketing Processes including:**
   1. Product and market development
   2. Advertising
   3. Customer segmentation
   4. Distribution management
   5. Product design identification

e. **Supporting processes including:**
   1. Information system
   2. Financial management
   3. Law and regulations
   4. Internal audit
   5. Human resources
   6. Administration
   7. Public relations
   8. Research and development

f. **Service processes including**
   1. Special service management
   2. Customer service
   3. Fault and service difficulties
   4. Billing

g. **Non core business processes including:**
   1. Properties
   2. Education and training
   3. Safety
   4. Other non core business
3.6 Foundations for TELKOM’s Improvement Programs

The foundations for improvement program includes management policy, organisation vision and mission statements as well as long term objectives and organisation culture. In TELKOM’s case, these are outlined below.

3.6.1 The 3-2-1 Policy

In anticipating future challenges, TELKOM initiated a new management policy which is known as the 3-2-1 policy, in 1989. This policy has 3 primary objectives, 2 strategies and one basic resource as outlined below:

- The three primary objectives are delivering the best service, the best result, and maintaining the best image.
- The two strategies are improving the quality of human resource and improving the management.
- Then TELKOM’s most basic and most important resource is solid teamwork. (translated from TELKOM, 1995,p.VII-4).

The vision and mission statement of TELKOM are as follows:

3.6.2 Vision

a. TELKOM is to be company that is able to supply a variety of telecommunication service products catering to the needs of society at large and run by modern and professional management, and able to make use of latest technology so as to become a world class company with the finest reputation, providing first class services and able to give best results to its
stakeholders, while to the maximum extent possible, providing customer satisfaction.

b. It always promotes creativity, productivity and the welfare of its human resources as to become a national "centre of excellence" while always paying due attention to social responsibilities in a harmonious and balance manner.

(translated from TELKOM, 1995,p.II-7)

3.6.3 Mission

To provide telecommunication services, extend the scope of services area, to improve its service quality in order to facilitate the broadcasting, transmission and reception of news and information through improving its human resource capability the mastering information technology. (translated from TELKOM, 1995,p.II-7)

3.6.4 Long Term Objectives

TELKOM's long term objectives are based on government regulation (pasal 2 Peraturan Pemerintah No. 25 tahun 1991) and are:

1. To provide services that reach society at all level through accelerating the expansion, replacement and building of telecommunication facilities.

2. To improve the quality of services and to expand the coverage and number of telecommunication services.

3. To improve company productivity and efficiency.

4. To improve the professionalism of the employees through self development and welfare improvement, work welfare and high work ethic.
5. To develop TELKOM to become a modern and efficient world class company. (these points are translated from TELKOM, 1995, p.II-8)

3.6.5 Organisation Culture

The organisation culture consist of two aspects: managerial attitude; and organisation culture "ARTI".

3.6.5.1 Managerial Attitude

The managerial attitude promoted is for staff to be:
1. Effective, efficient, economically and productive
2. Service oriented
3. Comprehensive management
4. Build professionalism and develop idealism
(translated from TELKOM, 1995,p.VII-6)

3.6.5.2 Organisation Culture "ARTI"

Late 1992 a "back to basics" philosophy was proclaimed. This policy emphasises improving professionalism as a basic thrust within the organisation. In the human resource area, back to basics means to improve the professionalism and capability of human resources. This is done by consistently making efficient use of the employees based on their capability and expertise. It requires the unity of states of mind which is integrated in the organisation culture. The organisation culture developed and termed "ARTI" (Accurate, Responsive and Sympathetic) was introduced as a response. The element of this policy are describe as follows:
• **Accurate Culture**
In carrying out their duties, no employee may adopt a less than conscientious approach and employees can only be selected for their duties on the basis of their ability to maintain and raise their professional standards, that is, an ability appropriate to their field, and based on accurately provided data and information.

• **A Responsive Culture**
Every employee must display an attentive manner and not leave customers, whether internal or external customers, waiting or in a situation of uncertainty. Speed of work and attentiveness to the demands of the environment are the utmost necessity.

• **A Sympathetic Culture**
Every employee must be capable of creating a vertical relationship with God Almighty and horizontal links which are both synergistic and professional with external customers on the one hand and fellow workers on the other, as well as with superiors and other related institutions.
(translated from TELKOM, 1995,p.VII-7)
3.7 **Total Quality Management in TELKOM**

Besides the foundations described in section 3.5, the status of the company’s improvement programs also provides a strategic context to implement benchmarking.

The improvement approaches being implemented by TELKOM include organisation restructuring, BPR and benchmarking and TQM. These improvement programs bring incremental and radical improvement within the organisation.

TELKOM has hired NEPOSTEL Netherlands to implement TQM in TELKOM. This program starts at the beginning of 1996. This means that the TQM program has just started in TELKOM. Nevertheless, during the research, it was found that the basic features of TQM exist in TELKOM. These features are also foundations for implementing other TELKOM’s improvement programs include benchmarking.

As described by Dawson and Palmer (1995, p.29-34) common features of a total quality management program are:

- A management philosophy of change
- An emphasis on continuous improvement
- Application of appropriate quality control techniques
- Group problem-solving of process operations
- A focus on 'internal' and external customer-supplier relations
- A commitment to employee involvement
- A climate of trust, co-operation, and a non-adversarial system of industrial relations
The first key feature of TQM is that it is a holistic management approach to quality improvement which involves all aspects of internal operations and every employee of the company, as well as external operating practices and customer-supplier relations. TELKOM's vision, mission objectives and culture indicate that quality and improvement are themes within TELKOM's business.

The second main characteristic of TQM is its emphasis on continuous improvement and incrementalism. TELKOM combines incrementalism and business process reengineering to achieve improvement. Incrementalism is applied in daily operations. On the other hand, restructuring and business process reengineering/redesign are new organisational strategies that reflect new developments in management philosophies and the need for better customer focus. In other words, the new management philosophy requires a range of strategies including restructuring and BPR.

The third element of TQM programs is the application of appropriate quality control techniques. Quality control techniques are applied by quality circles as problem solving tools. Furthermore, advanced telecommunication technology, such as IMS (Integrated Management System) to improve service quality in network management, have also been implemented.

The fourth and related characteristic of TQM is the use of group problem solving techniques. Quality Circles are official program across TELKOM. Local quality circles meet regularly to discuss and solve day to day work problems. The outcomes of quality circle problem solving are presented in the annual quality circle national convention of TELKOM.
The fifth major component of TQM program is the focus on internal and external customer supplier relations. The TELKOM corporate culture "ARTI" indicates an awareness of external and internal customer relationships. TELKOM and local universities conduct research on customer satisfaction regularly.

The sixth element associated with the principles of TQM is based on a commitment to employee involvement. In discussing the other elements above, it should be clear that changes, such as the development of TQM problem solving teams and the concepts of internal customers all form part of programs of change which emphasises employee involvement. However, the extent to which TQM can in practice achieve total quality involvement is questionable. Nevertheless, the aim of TQM is to achieve 'unified purpose via extensive sharing of information and involvement in planning and implementation of change' (Schorberger, 1992,p.83 cited in Dawson and Palmer, 1995,p.33). Through training programs, education, multi skilling, cross-career developments and multi function project teams, employees are actively encouraged to be involved in solving current organisational problems and the future competitive success. (Dawson and Palmer, 1995,p.33). TELKOM continuously provide training, education and cross career development programs although multi skilling and multifunction project teams have not been implemented.

The final element is building on high trust relationships, and the development of non adversarial systems of industrial relations. TQM programs aim to create and sustain greater employee commitment and trust. Communication is identified as the main vehicle for building trust between senior management, middle management and other employees within the organisation. The objective is to bring about a shift in existing attitudes and remodel adversarial systems of
industrial relations through a more open and participative management approach which actively seeks and places a premium on the knowledge and experience of all employees. TELKOM provides internal bulletins, and recently established an office automation (OA) network (email) as means of organisation wide communication.

TELKOM is seeking to continuously improve its TQM program. As mentioned previously, TELKOM has hired NEPOSTEL Netherlands to implement Total Quality Management. The main consideration in the TELKOM request for proposal from NEPOSTEL was to crank up processes meant to continuously and unremittingly achieve quality. TELKOM's division IV is a pilot project of this program.

Prior to the actual start of the project, two groups of 6 persons each will attend a 10 day training program on TQM in the Netherlands enabling them to apply TQM in TELKOM. The curriculum of the training consists of:
- The TQM philosophy
- Quality organisation (front-back-office)
- Measuring Quality
- Customer satisfaction
- Internal improvement
- Internal benchmarking
- Quality and staff
- ISO certification.
3.8 Conclusion

From the above, it can be seen that TELKOM is currently in the midst of significant change. Current ongoing changes in TELKOM’s organisation and business structure indicate that the company is seeking to continuously improve its operations. TELKOM’s vision, mission, objectives, organisation culture and the basics of a total quality program already exist in TELKOM. These provide a solid basis for its improvement programs. TELKOM is a company well down path of pursuing best practice and benchmarking figures prominently in its plan for this.
Chapter 4

Review of the Existing Benchmarking Program in TELKOM

4.1 Introduction

This chapter examines the status of the currently existing benchmarking program in TELKOM as a precursor to developing a more appropriate benchmarking model for the organisation to follow. TELKOM’s benchmarking concept will be identified to understand the ideas behind the use of the term ‘benchmarking’ as mentioned in TELKOM’s improvement strategies. Finally, the function of benchmarking as one of TELKOM’s improvement strategies is identified and analysed. The aim of conducting this analysis is to identify the appropriate steps for a customised benchmarking model that will be developed later.

4.2 Benchmarking Concepts

No formal definition of benchmarking has been adopted by TELKOM, but the following statements on benchmarking are assumed to represent TELKOM's benchmarking concept:

"Therefore, for the good progress and growth of the company as we enter an era of competition, and so that the company can continue to survive, it is necessary for studies to be carried out to learn from the success achieved by advanced countries in their process of growth in telecommunication business development, and to be able to adapt and embrace business and management process, including planning and carrying tasks as well as instituting work mechanism to control and monitor them. In other words, it is necessary to
benchmark with foreign telecommunication companies in advanced countries, through adopting systematic and continuous process, by making regular comparisons and assessments of the company's business processes and compare them to those of the industry's leaders' while also gathering information to take action to improve the company's performance by adapting it with environmental and cultural differences" (translated from, TELKOM, 1995, p.VI-8).

This concept accords with the more common benchmarking definitions. It includes the following steps:

1. Measure organisation business performance;
2. Compare it with best practice;
3. Take improvement action based on comparison results by considering environmental and culture different.

This concept implies that benchmarking is expected to contribute for the good progress and growth of the company.

4.3 Benchmarking Functions

Benchmarking is clearly acknowledged in some of TELKOM's strategies. The corporate strategies are formulated by TELKOM to develop the company in order to survey and grow in rough periods ahead.

The principles of the corporate strategies are:

1. To accelerate the availability of telecommunication network in adequate quantity and high quality for the community in major areas, by selectively using high technology based on the needs.
2. To improve product quality and quality of service and develop types of service to increase customer satisfaction.
3. To hasten the growth of TELKOM to become an efficient, productive and professional company ready to compete or complement in a competitive environment through carrying out company restructuring and benchmarking with telecommunication companies from developed countries" (translated from, TELKOM, 1995,p. VII-9)

TELKOM corporate strategies cover the following areas:

a. Customer service, Service and Business development
b. Operational and Maintenance
c. Telecommunication infrastructure development.
d. Finance
e. Human resource, Organisation and management
f. Technology

The corporate strategies are further detailed in Functional Strategies which consist of several sub strategies and steps.

Areas of TELKOM corporate strategies that use benchmarking are:

**a. Customer Service, Service and Business Development**

"The strategies in this area place emphasis on improving service quality comprehensively through computerised systems, improving product quality, expanding service area, developing range of services offered and business diversification and improving management efficiency. One sub-component of this strategy is:

9. Develop telecommunication business management method through activities classification and determine the strategy to improve efficiency and productivity.

At a lower level, one of this strategy's details is:
g. Accelerate the organisation change toward World Class Operator criteria through the following steps:

1. Identify organisation's process performance at the beginning of restructuring, KSO (Kerjasama Operasi or Joint Operating Scheme) and IPO (Initial Public Offering).
2. Determine groups of operators as leader partner companies
3. Measuring performance gap between TELKOM and leader partner companies
4. Determine improvement target every year until year 2001
5. Develop action plan which includes schedule of the plan to achieve target improvement through rolling plan".

(translated from, TELKOM, 1995.p. VII-10,14,15)

TELKOM is seeking to meet World Class Operator criteria. The World Class Operator criteria that TELKOM wants to achieve are:

1. New Lines Installation : less than 3 days
2. Fault clearance : less than 24 hours
3. Fault incidence : max. 1 line per 100 lines per year
4. Customer complain answered : less than 20 seconds
5. Directory up to date operator service : ready in 24 hours
6. No measure dial tone delay : no delay
7. Blocking network : less than 1 %
8. Call completion rate : 99 %

b. Operational and Maintenance

"The Operational and Maintenance strategies are directed toward improving operational equipment performance and to modernising telecommunication
network management in order to provide a reliable telecommunication network. One of the strategies is:

3. To maintain telecommunication equipment and other supporting equipment according to a standard and to supply spare parts according to plan and consistently for both Technical Unit (Unit Pelaksana Tehnis) and Division. One subcomponents of this is:

g. Benchmarking against telecommunication operators in developed countries in equipment quality improvement" (translated from: TELKOM, 1995,p.VII-21,22,24)

c. Telecommunication Infrastructure Development

"The strategy of Telecommunication Infrastructure Development is directed towards achieving service expansion timely, effectively and efficiently. Significant elements of the strategy include:

1. To prepare development planning professionally and accurately based on short, medium and long term development planning and reliable market research and demand forecast through:

b. Benchmarking in management and business process since planning, execution and control.


e. Human Resource, Organisation and Management

"The purposes of the strategy in Human Resource, Organisation and Management are to anticipate changing in the future to prepare the organisation to survive in entering competitive telecommunication business and to accelerate
organisation growth towards becoming a world class operator. One of the development strategies in this area is:

15. Restructuring”.

According to TELKOM (translated from: TELKOM, 1995, p.VII-31, 37, 38) one of restructuring steps is:

“e. Business Process Reengineering (BPR) and redesign which includes executive process, network development, operation, marketing, supporting, service, and non core business process by identifying existing business processes which are then adjusted and mapped into those business processes.

The phases of BPR are as follows:
1. Comprehensive evaluation to identify business processes necessary to be changed
2. Identify process owner
3. Process redesign (Reengineering, Improvement and Innovation) with consultant assistance or benchmarking.
4. Try out the new system
5. Implementation the new system”.

4.4 Analysis

As stated previously, the third principle of TELKOM corporate strategy acknowledges that benchmarking will be used to improve the organisation. In summary, the functional strategies state that the use of benchmarking in TELKOM is:
1. To achieve the WCO status
2. To improve equipment quality
3. To prepare planning of infrastructure development
4. To facilitate Business Process Reengineering.

Looking at each of these uses of benchmarking in turn

1. To achieve the WCO status

In this area benchmarking is not specifically required but the steps suggested to achieve WCO status are similar to benchmarking steps. The WCO criteria are specific performance measurements of service quality appropriate to TELKOM's core business. If the WCO criteria are the critical success factors for TELKOM then benchmarking topics may be determined based on those criteria. Telecommunication operators that aim to achieve WCO status may use those criteria as company’s performance indicators. If there is a performance gap, the telecommunication companies have to close or narrow the gap. Benchmarking is the appropriate tool to improve the organisation performance because it provides a continuous performance measurement against other organisations and improvement efforts. A benchmarking model that emphasises looking outward to identify the best practice performance measurement and the key performance enablers is the appropriate model for this purpose. Process performance indicators and performance enablers are identified when studying benchmarking partner's processes. The site visit will facilitate this purposes and it also provides an opportunity for the benchmarking team to see best practice in action.

2. To improve equipment quality

One of TELKOM’s operational maintenance strategies is “benchmarking..... in equipment quality improvement” (TELKOM, 1995, p. VII-24). This implies that
maintenance will improve equipment quality. Whereas the definition of maintenance is:
"The combination of all technical and associated administrative actions intended to retain an item in, or restore it to, a state in which it can perform its required function" (BS 3811, 1984 cited in Prytz, 1995, p. 256). This definition clearly imply that maintenance will not improve equipment quality. Equipment quality may be improved by modifying existing equipment, or replacing it with better equipment.

TELKOM is a major user and operator of telecommunication equipment. TELKOM does not develop telecommunication equipment and other supporting equipment. Without modifying or adding new equipment, TELKOM's activities will not improve the existing equipment quality. Therefore, benchmarking may be used to determine the appropriate equipment and technology that should be utilised to improve equipment quality.

The second and third of the WCO criteria reflect the operational and maintenance performance. Benchmarking in those areas should be part of a benchmarking exercise in achieving the WCO criteria. Benchmarking method in these areas purposes also emphasises the key performance indicators and performance enablers.

TELKOM also uses a wide ranges of telecommunication equipment which varies in operation and technology. This should be considered when benchmarking in operational and maintenance areas.
3. To prepare planning and infrastructure development

The quality and availability of telecommunication infrastructure may have a significant impact on organisational performance. Therefore benchmarking should facilitate the planning and management of development activities. Benchmarking in this area emphasises the overall procedures, processes and policies of infrastructure planning management and development management. So it may be used in conjunction with BPR program. The method appropriate for this purpose emphasises identifying the internal processes and appropriate times for conducting benchmarking exercise.

The TELKOM corporate office determines the infrastructure development target, whereas all the processes involved in development from planning to control are determined by each Division. Therefore divisions are the appropriate bodies to carry out benchmarking exercise for planning and infrastructure development purposes.

4. To facilitate business process reengineering.

The third phase of TELKOM's BPR steps implies that benchmarking will be used as a mechanism to facilitate process redesign. Benchmarking is expected to contribute to the achievement of best practice with the new process. According to Bogan and English (1994, p.191), benchmarking has potential application in the reengineering process. At times the comparison may be of simple performance benchmarks that are useful in establishing the gap and evaluating long term capability; at other junctures, the benchmarking challenge is to determine the best business practices and the most innovative approaches that can be applied in a complex process or work system. Here the best practice
focus may be on process design, information systems, technology strategy, organisational structure, employee skill levels, training or other managerial system. For this purpose, an appropriate benchmarking method emphasises best practice business processes, the processes performance indicators and the processes enablers. Benchmarking will be used in processes identified by the BPR and the processes stated in the functional strategies, while BPR will be used in the overall organisation process.

A benchmarking model that accommodates the above purposes places emphasis on:

- The timing of implementation
- Identifying internal processes
- Best practice performance indicators (process performance measurement)
- Key performance enablers

4.5 Conclusion

TELKOM’s long term planning contains three elements which are related to benchmarking. These are: the institution of a concept which is similar to the classic definition of benchmarking; the adoption of the procedural strategy to achieve World Class Operator (WCO) status which employs steps similar to benchmarking; and the institution of phases of BPR which complement the benchmarking steps.

TELKOM’s benchmarking concept implies TELKOM is seeking to institute external benchmarking. The use of benchmarking for the four purposes identified in the analysis section indicates a need for process benchmarking.
The use of benchmarking for the four purposes identified in the analysis section are interrelated. Using benchmarking for one purpose may suit other purposes or even overlap them. For example, benchmarking against one of the WCO criteria may be an initial step in identifying the strategic processes for the BPR purposes; on the other hand, benchmarking against another WCO criterion may overlap with benchmarking in the operational and maintenance areas.
Chapter 5
Development of a Customised Benchmarking Model for TELKOM

5.1 Introduction

The previous chapter shows that benchmarking is acknowledged as a key strategy in the TELKOM improvement program. It also shows a need for process benchmarking. Since no formal benchmarking methodology has been developed as part of the TELKOM improvement program, opportunity existed to develop a customised benchmarking model for use by the organisation in both external and internal benchmarking exercises.

The first part of this chapter discusses the framework used in developing the initial benchmarking model. TELKOM's benchmarking concepts, the steps to achieve the WCO and the steps in BPR were combined to formulate an initial benchmarking model. The author then goes to test this initial model in a pilot internal benchmarking project at TELKOM.

The second part describes the customised model developed for TELKOM. This is a refinement of the model used in the pilot project, developed by considering TELKOM's conditions and environment.

5.2 Formulation of the Initial Model

In developing the benchmarking model for TELKOM, the objectives discussed in the previous chapter should be accommodated. The discussion also identified four essential steps in benchmarking for those purposes. Added to this, TELKOM already has three concepts related to benchmarking. These are: a benchmarking concept; the procedural strategy to achieve the WCO status; and phases of BPR. These three concepts will hence forth be termed "TELKOM existing concepts". They constitute the
most important factors to consider when formulating an appropriate benchmarking model for TELKOM. Building on the concepts already in place at TELKOM, instead of employing completely different organisational framework, is expected to produce an acceptable customised model.

TELKOM's benchmarking concept is therefore the foundation for developing the model. The parallel programs to achieve WCO status and introduce BPR are the main considerations in achieving the compatibility and harmonisation of benchmarking model with these programs.

TELKOM's benchmarking concept accords with most benchmarking definitions. As seen previously, TELKOM's concept includes the following steps:

1. Measure organisational business performance continuously and systematically
2. Compare it with best practice
3. Take improvement action based on comparison results by considering environmental and culture different.

These steps accord with the strategy to achieve the WCO status which is as follows:

1. Identify organisation's process performance at the beginning of restructuring, KSO and IPO.
2. Determine groups of operators who are leaders in the industry to determine partners.
3. Measure the performance gap between TELKOM and these partner companies
4. Determine improvement target every year until year 2001
5. Develop action plan which includes the schedule for the plan to achieve the improvement target through rolling plan.
On the other hand, the phases of BPR as being pursued by TELKOM are as follows:

1. Comprehensive evaluation to identify the business processes requiring to be changed
2. Identify process owner
3. Process redesign (Reengineering, Improvement and Innovation) with consultant assistance and/or the use of benchmarking.
4. Try out the new system
5. Implementation of the new system

The process of identifying the common approach that will achieve benchmarking objectives and be compatible with the WCO and the BPR steps may be drawn as follows:

![Figure 5.1 Integration of TELKOM’s Existing Concepts.](image)

Figure 5.1 Integration of TELKOM’s Existing Concepts.

The core region in figure 5.1 shows that similarities exist between the methodology associated with benchmarking concept and the BPR steps. More specially, it is apparent that the first step of the methodology associated with benchmarking concept and the first step of BPR emphasise evaluation of business processes. Furthermore the third steps of the
benchmarking concept and the third to fifth steps of the BPR process infer that improvement action is the follow up of the exercise.

The BPR steps also imply that process identification is undertaken prior to process redesign where benchmarking may be used.

Looking now at the benchmarking vis-a-vis, we see that there are common steps viz the steps to achieve the WCO status do not mention process identification. However this must be performed prior to process performance measurement.

The core strategy drawn that integrates all three activities can be described by the following elements:
1. Identify the processes and their performances
2. Identify best practices, their processes and performances
3. Determine the gaps

5.3 Validation of the Model

The core steps identified above represent the initial benchmarking model formulated by the Author. This initial model was tested in a pilot project to establish the suitability of the methodology. The pilot project also served as the research method to collect additional data on benchmarking by closely observing the actual business practice.

Since the author was not familiar with TELEKOM's business operations, the author sought and obtained TELEKOM cooperation in forming a benchmarking team for the pilot study with TELEKOM employee participation. The author’s role was that of team leader of the pilot project as well as being its principal architect. The author recognised that TELEKOM input was also necessary to determine the specific benchmarking topics and select the benchmarking partner preparatory to testing the pilot model. The approach also recognised that TELEKOM employee involvement and
ownership would be essential for the report of benchmarking exercise to be accepted and implemented. Based on these considerations, the author developed the methodology employed in the pilot project as presented in the following section.

5.3.1 Benchmarking Methodology Tested in Pilot Project

The full report of pilot project is in appendix A. The benchmarking pilot project involved field study with the cooperation of TELKOM. The ultimate aim of benchmarking pilot project was to test the model. It involved internal benchmarking exercise where Kandatel Bogor benchmarking against Kandatel Bandung. The activities benchmarked were 'new line installation' as one of the WCO criteria which are assumed as TELKOM's CSFs. New line installation consists of the following key processes:

- Administration Processes and
- Technical Processes

The steps employed in benchmarking in the pilot project were:

1. Select benchmarking team
2. Select benchmarking topic
3. Identify and contact the objects for the pilot project
4. Benchmarking plan
5. Internal review:
   - process documentation and measurement
   - report
6. Prepare site visit plan
7. Site visit
   - process documentation, measurement and process enablers
8. Analysis
   - determine the gap
5.3.2 Results of the pilot project

Performance in new line installation:

Bogor : 71.18 % achieve the standard (7 days)
Bandung : 80.76 % achieve the standard (4 days)

The key performance indicators developed were:

<table>
<thead>
<tr>
<th>Description</th>
<th>Bandung</th>
<th>Bogor</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Employees*/per new lines</td>
<td>1 : 3</td>
<td>1.42: 1</td>
</tr>
<tr>
<td>• Employees*/per existing subscribers</td>
<td>1 : 536</td>
<td>1:373</td>
</tr>
<tr>
<td>• Employees*/per application for new lines</td>
<td>1 : 4.15</td>
<td>1.15:1</td>
</tr>
<tr>
<td>• Employees**/per total employees in the Kandatel</td>
<td>1 : 2.15</td>
<td>1: 2.01</td>
</tr>
</tbody>
</table>

Table 5.1 Comparison of Performance Indicators

Notes:

Employees* = Technical employee
Employes** = all employees involved in new line installation (administration and technical)

Performance enablers that assist Kandatel Bandung to perform better are:

• An integrated computer system named “SISKAMAYA”.

Kandatel Bandung is able to complete the administration task within one day because the SISKAMAYA system cuts the bureaucracy. Whereas Kandatel Bogor needs 3 days.
• Contractors.

The use of contractors which provide sufficient workers and equipment enables Bandung to finish the installation faster (2 days), whereas Kandatel Bogor took 6 days.

The initial methodology proved inadequate for the pilot project task, therefore it was refined by adding several steps.

Experience in the pilot study shows that the development of the initial methodology from the core strategy into sufficient sub-steps depend on the condition of the organisations.

The result of benchmarking trials had been reported to Kandatel Bogor. It will be taken into account in planning of future development program in the following financial year.

5.4 Customisation of the Benchmarking Model for TELKOM

The steps involved under the methodology employed in the pilot project were tailored to the conditions and the environment applying within Kandatel Bandung and Kandatel Bogor. However they are not suitable for wide application within TELKOM given overall condition and environment of the organisation. Therefore the benchmarking steps in the pilot project were refined by further considering the more unique features of conditions applying to TELKOM's operation. The other factors considered in refining the model are factors identified in earlier discussion which analysed the purpose of using benchmarking.

The benchmarking model applicable to TELKOM must take into account two aspects namely Supporting Environment and Procedural Steps.
Supporting Environment are the conditions, policies and regulation that facilitate benchmarking. This environment prepared and maintained by the headquarters reflects the corporate approach of headquarters on a corporation wide basis. The Procedural steps are those individual steps that are performed when conducting benchmarking exercises. Procedural steps tend to be repeated process, whereas the supporting environment is created once but may be on a one off basis based on the needs.

5.4.1 The Description of the Customised Benchmarking Model

A. The Supporting Environment

The supporting Environment are the preconditions for benchmarking. Those are:

1. The checks and preparations that are the preconditions for successful benchmarking.

Benchmarking is a new improvement tool for TELKOM. Some conditions that create a supportive environment will enable successful benchmarking program. Therefore the very first step of benchmarking program is to check the existence of suitable preconditions for benchmarking, and have management institute them if they do not exist.

2. Incorporation of benchmarking into a formal and structured program

If the preconditions are satisfied then benchmarking should be adopted as one of TELKOM's formal improvement programs. A formal and structured program will ensure allocation of human resource, time and funds that facilitate the successful benchmarking.
3. Establishment of CSFs

The corporate strategies indicate that benchmarking will be implemented to achieve several interrelated purposes. Benchmarking in one area may overlap with another area. To avoid this, it is necessary to identify the Critical Success Factors as precursor to identifying benchmarking topics and which department will be responsible.

4. Benchmarking Training

Benchmarking training is the tool to enable the team success. Without training in the process, tools, techniques and philosophy of best practices, benchmarking teams are severely handicapped. The benchmarking training provided by the headquarters primarily focussed on training for trainers. Then the training activity may be transferred to each TELKOM's division.

B. Procedural Steps

Procedural Steps are technical steps of benchmarking. As discussed previously, benchmarking is used to achieve the WCO criteria, to improve equipment quality, to prepare planning and infrastructure development, and to facilitate business process reengineering. Those factors were considered in developing the initial model and will be considered again in refining the initial model. However, research findings and the pilot project are the primary consideration in refining the model.

1. Benchmarking Training

As benchmarking training for the benchmarking team is based on the training material prepared at the corporate level, modification may required.
2. **Timing of implementation**

Timing of implementation means the schedule of benchmarking should fit to the schedule of planning preparation for the organisation which undertake benchmarking exercise. This is because the development program in TELKOM is based on annual planning budget that is planned and proposed ahead. The availability of long and short term planning will prevent partial planning (translated from: TELKOM, 1995, p. VII-2). The action plan which follows up benchmarking exercises should be part of long or short term planning. Therefore the benchmarking schedule should consider the time/schedule to propose short or long term planning.

3. **Determine benchmarking topic**

When the company has determined the key business processes and the critical success factors, these may be used to determine benchmarking topics. The selection benchmarking topic is an area that needs improvement.

4. **Benchmarking Team**

Benchmarking includes several activities such as investigation, analysis, recommendation, planning and implementation. Experience indicates that benchmarking is performed by a team. The primary users of benchmarking information are the employees who directly perform the jobs. They are responsible for implementing changes based, in part, on the results of their benchmarking. A benchmarking team may consist of employee from different departments or from the same department. Team member can be selected based on the benchmarking topic and experience.

5. **Internal review**

A fundamental step in benchmarking is to know one's own processes and their performance before comparing them with the best practice. Therefore
the process identification should be performed prior to process performance measurement.

The internal review includes the following steps:

• Process analysis and documentation
• Process performance & performance indicator
• Identify process enablers
• Report

Process analysis and development process documentation are the basis of measuring process performance. Process documentation also shows which key processes need be to simplified or changed. Process performance measurements depend on the nature of the process and the criteria used. In this step, performance indicators and performance enablers are also identified. An internal review report is prepared as a basis to compare organisation performance with best practice. It also provides a basis on which to develop the benchmarking visit plan.

6. Identify best practice

Information on best practice or world class operators may be obtained from the ITU (International Telecommunication Union) or other telecommunication publications. Best practice does not means best practice in every area. Identifying a benchmarking partner depends on types of benchmarking it is planned to conduct. The choice of type of benchmarking also depends on the objectives of benchmarking. If a benchmarking partner has been determined, the benchmarking partner should be informed.

7. Prepare benchmarking visit plan

The aim of preparing a benchmarking visit plan is to identify data or information needed, interview guide lines and site visit schedule.
8. **Benchmarking visit.**

The purpose of site visits are to study the process related to the best practice performance. It is not only to collect information but also to look at the actual practice of processes and procedures closely.

The plan is based on internal review of process performance measurement and processes enablers to ensure validity and consistency ie comparing 'apples with apples'.

9. **Analysis**

All data collected during site visit will be documented and analysed.

This step consists of several sub steps:

- **Analyse partner's performance**

Partner performance indicators will be measured based on measurement variables used in internal review. Performance enablers are also identified in these steps as well as other different variables. The latter for example, may include different regulations, technology, environment etc.

- **Identify gap and reasons**

Differences in performance may be due to different process, policies and regulations. Overall process comparison must be undertaken before process measurement. The performance gap is not necessarily the difference in performance measured. It may be due to the differences in the overall process.

- **Report and recommendation**

The search for best practices is not the end of a benchmarking exercise as further action may be needed to be taken to narrow or close the gap. The benchmarking report and recommendations should contain important information for use in preparing the action plan to narrow or close the gap.
10. *Determine improvement target*

Improvement target must be determined prior to preparing action plan to achieve the target. The improvement target should be an achievable target having regard to the available company resources.

11. *Action plan*

Action plans will be developed based on the benchmarking report and its recommendations. As noted previously, the action plan should be part of corporate planning, either long term or short term planning.

12. *Recalibrate benchmarking*

Best practice is a moving target therefore benchmarking with best practice is a continuous process. This means continual recalibration is necessary.

5.4.2 *Outline of the Customised Benchmarking Model*

In summary, the customised benchmarking model can be considered to be comprised of:

A. **The Supporting Environment**

1. Check and prepare preconditions for benchmarking.
2. Incorporate benchmarking into an official program
3. Determine Critical Success Factors

B. **The Procedural Steps**

1. Benchmarking training
2. Timing of implementation
3. Determine benchmarking topics
4. Benchmarking team
5. Internal review
   • Process analysis and documentation
   • Process performance indicators
   • Identify process enablers
   • Report
6. Identify best practice
7. Prepare site visit plan
8. Benchmarking visit
9. Analysis
   • analyse partner's performance
   • identify gap and reasons
   • report and improvement target
10. Determine improvement target
11. Develop action plan
12. Recalibrate benchmarking.

5.5 Conclusion

The initial benchmarking model developed for TELKOM draws on concepts already existing in TELKOM. Conduct of a pilot test using the initial model showed the latter's worth but suggested that refinements needed to be introduced. However the benchmarking steps employed in the pilot project were not sufficient because several other factors, identified during the author's research, have to be considered to ensure the success of a benchmarking exercise. Incorporation of the refinements means the customised model is suitable for application across TELKOM in both internal and external benchmarking application.
Chapter 6
Discussion of Results

6.1 Introduction

This chapter first looks at the reasons why the initial model did not perform satisfactorily. Then it reviews the customised model by examining each step in the customised model developed by the author. These steps are a combination of the procedural steps invented by the author; the steps derived from Telkom's existing concept; and the steps adapted from TELKOM's existing concepts. Finally, there is a discussion of several issues that are not directly related to the benchmarking model developed but that should be considered when undertaking benchmarking exercises and that benefit the conduct of benchmarking.

6.2 Reasons for Including Additional Steps in Initial Model

The pilot study conducted involved testing the model through an internal benchmarking exercise. The pilot study showed that the model was suitable for:

- Identifying the processes and their performance
- Identifying best practices, their processes and performances
- Determining the gap

The pilot study also showed that additional steps needed to be added to the initial model. These steps addressed the following:
The need for a team to be formed
The topic of the process benchmarking pilot project involved several processes and departments. One the obstacles encountered in the pilot project was the lack of intimate knowledge of TELKOM's business, even though the exercise was assisted by one of TELKOM's employee. Formation of a team comprised of employees from related departments and with the relevant knowledge will facilitate future benchmarking exercise.

The need to identify the benchmarking topic
Process identification and process performance measurement could not be performed unless the benchmarking topic has been determined.

The need for specific TELKOM organisational units to be selected for pilot projects to test the initial model
Testing on the initial model needs the assistance of two organisations, one to be organisation undertake benchmarking and the other to be the benchmarking partner.

The need to prepare a benchmarking report
An action plan to follow up the benchmarking will be prepared by Kandatel Bogor as a formal plan for adoption in the following financial year. The action plan was not prepared by the author because the action plan will be integrated into the overall plan for Kandatel Bogor. The benchmarking report will serve as an input to prepare action plan.
6.3 Discussion of the Customised Model

The customised model, although not tested, should prove suitable for application in both internal and external benchmarking situations as it has several features that should serve to overcome the problems observed with the initial model. These features are:

- Improved preparatory stages for benchmarking
- Better integration of benchmarking into TELKOM’s planning procedures
- A more appropriate sequence of steps making up benchmarking procedure.

These features are covered in the discussion below of supporting environment and the procedural steps.

A. The Supporting Environment

A suitable supporting environment needs to be established to prepare the organisation to get ready to undertake benchmarking. Policy affecting the supporting environment is determined by the headquarters in one-off action prior to launching the benchmarking program. The supporting environment will be evaluated and changed based on the benchmarking development.

The model identifies a number of preconditions affecting the supporting environment. These will be discussed in turn.

1. The checks and preparations that are the preconditions for benchmarking.

As stated in chapter 5, supporting factors are the conditions, policies and regulations that facilitate benchmarking.
According to Andersen (1995,p.219), the company related conditions can be split into three categories:

1. **Structural conditions**, ie., resources and abilities needed to carry out benchmarking should be present in the company. These are:
   - financial resource, among other cost, certainly to finance site visits
   - time, to do all tasks necessary for a successful study
   - competencies, quite simply sufficient knowledge about benchmarking to be able to do it
   - competitive abilities and potential for development
   - documentation of central processes.

2. **Cultural conditions**, ie., the values and attitudes that form the basis for effective use of the benchmarking principles must be present in the organisation. These are:
   - international aspiration
   - will to change
   - will to information sharing (both internally and externally)
   - management commitment
   - participation of the employees

3. **Understanding of and consciousness about the company's business processes**, as business processes are the main focus in a benchmarking study. The following dimensions should be present:
   - process documentation, eg. flow charts;
   - an understanding of how the different business processes impact on competitiveness and critical success factors;
   - performance measures for the business process.
The first condition relates to structural conditions. The establishment of structural conditions may be by officially decreeing the benchmarking program as commonly practiced in TELKOM's other programs. This is to ensure successful implementation of the program. Voluntarily, unstructured and unofficial programs are likely to fail. For example, an informal benchmarking program following the benchmarking seminar and workshop failed. A structured and officially endorsed program ensures allocation of time and budget, responsibilities, models, guidance and evaluation. Benchmarking as part of improvement program should be prepared in a comprehensive package to be implemented as an official program.

The central process as one of the structural conditions required already exists in TELKOM as stated in directive KD 32/PS150/YASA-00/94. It comprises the central processes of TELKOM's business processes. TELKOM needs to revise (Hadisuwarno, et al, 1995, p.4) the processes which have been identified because there are some weaknesses such as:
1. process name unclear
2. there is no process owner
3. beginning and ends of the process changeable
4. lack of performance measurement in some processes
5. interfaces among processes are unclear.

Ongoing projects involving process mapping are being conducted by Ernst and Young Consultants. TELKOM should build on the result of these.

One of the cultural conditions is the "international aspiration" attitudes that may be present in the organisation. TELKOM aims to achieve the WCO status
and the willingness to benchmark against company leaders indicates its international aspiration. Nevertheless TELKOM also realises that this does not necessarily mean blindly adopting foreign companies practices. According to TELKOM's benchmarking concepts, those practices should be adapted to TELKOM's conditions.

TELKOM used to be a "Perusahaan Umum" (a state owned company) with public service as its principal corporate purposes. Then in 1991 it become PT. Telekomunikasi Indonesia (TELKOM). Generally, the organisation culture of a state owned company in a monopoly situation is different to that of a private company. It is implied in the statement that "TELKOM is facing competition. Monopoly arrogance should no longer exist in TELKOM's service. Customer is king. There is no other choice for TELKOM other than to become an efficient, productive and professional company based on the system approach and human resource improvement approach" (Ramadhan, et al, 1994, p.163). TELKOM's CEO Setyanto P. Santosa also admits that the most challenging task is changing the culture from a monopoly mentality company to become a customer oriented and competitive company (Syahban, 1996).

TELKOM is in transition from old culture to the new culture represented by the "ARTI" culture. The "ARTI" culture reflects the new values to be introduced. It also may imply how the old culture was. The "back to basics" principles also imply that TELKOM needs to raise their professional standards. It is recognised that it takes time to transform the culture. Texas Instruments found that to attain world class status in all key processes requires a major cultural change. The secret to the cultural revolution in companies is that each operating group has a clear focus on what it takes to successfully compete in that process, even though it may be an internal process not readily visible to outside customers.
Benchmarking serves to be the "reality check" for internal processes. Doing your best is no longer good enough. Benchmarking can educate internal teams and mould the ingredients for this cultural revolution (Baker, 1995, p.87).

The third condition implies that business process documentation should be present before undertaking benchmarking study. This is not an absolute condition. The author's pilot project experience demonstrates that process documentation can be developed during the internal review. Benchmarking can be developed even though the process documentation is still incomplete. The implementation of other improvement approaches such as TQM, ISO certification and the BPR require the company to develop process descriptions that might serve as a good foundation for process documentation for benchmarking. This guarantees the availability of the process documentation.

2. Incorporation of benchmarking into a formal and structured program.
The discussion on this issue has been covered in the discussion on "The checks and preparations for benchmarking" that is the structural conditions.

3. Determine CSFs
TELKOM corporate strategies imply that benchmarking is a valuable tool to improve several areas of TELKOM's business process. As discussed previously, benchmarking in one area may overlap with another area. Therefore the critical success factors are the appropriate basis to determine what to be benchmarked. It is suggested that the WCO criteria are the CSFs for TELKOM.
4. Benchmarking training

As part of the official program, benchmarking training should be held by both corporate office and division. Topics should include such as:

- Introduction to benchmarking
- Introduction to TELKOM's benchmarking model.
- Critical Success Factors
- Process documentation
- Key Processes
- Key Performance Indicators
- Performance enablers
- Performance analysis
- Benchmarking visit plan
- Data gathering techniques
- Performance gap analysis
- Benchmarking report
- Action plan

The initial benchmarking training held by the headquarters should be for the trainers. These trainers then train the benchmarking team in each division. Training given by the headquarters also ensures company wide harmonisation of benchmarking program.

B. Procedural Steps

The procedural steps are the technical steps performed in benchmarking exercise. They represent a combination of: additional steps invented by the author are those not covered by TELKOM's existing concepts; the procedural
steps derived from TELKOM's existing concepts; and procedural steps adopted from TELKOM's existing concepts. TELKOM's existing concepts are benchmarking concepts, the steps to achieve the WCO status and the BPR procedures.

The additional steps suggested by the author are all the steps in supporting environment and some steps in the procedural steps. The additional steps in the procedural steps are:

- Determine benchmarking topics
- Benchmarking training
- Timing of implementation
- Benchmarking team
- Recalibrate benchmarking

These will be discussed in turn.

- **Determine benchmarking topics**
  Each of the WCO criteria can be a benchmarking topic but it may be too broad because each criterion consists of several key processes and involves several departments. For example when benchmarking on installing new lines, this process consists of 2 key processes themselves consisting of at least 5 major processes. Each of the major processes consists of several sub processes with different process owners.

  Process mapping of each WCO criterion is aimed at identifying the processes and the key processes, the process owner and related department. This may be used to determine benchmarking topics and which department is responsible for particular benchmarking exercises to avoid overlapping. Benchmarking on the
key processes also limits benchmarking topic into a more manageable benchmarking exercise.

- **Benchmarking training**
Training for a benchmarking team will be more efficient if it is held at division level because the number of people involved and their locations. The difference in work environment, technology used and slightly different system also are factors to be considered in preparing training materials.

- **Timing of implementation**
The policies on investment and the change of the organisation process may affect implementation of the action plan. Those factors should be considered if the action plan requires some changes in work processes and equipment or investment. Therefore the author's benchmarking model includes a schedule of benchmarking because annual planning is a basis for TELKOM operation. Benchmarking may be used to contribute to develop company's short term and long term planning.

- **Benchmarking team**
TELKOM's existing concepts do not make mention of benchmarking teams. Some of benchmarking models also do not include establishing benchmarking teams as one of the steps. But their benchmarking exercises are carried out by teams. The purpose of including benchmarking teams as one step in the model is to emphasise that benchmarking should be done by the team. Common practice in TELKOM is that every team should be officially appointed for valid reasons. Therefore establishment of benchmarking team is included in the benchmarking model.
• Recalibrate benchmarking

The third and the fourth step of the procedural strategy to achieve the WCO status imply that benchmarking exercise is conducted only once followed by an action plan to achieve an improvement target in 5 years (from 1996-2001). In five years time, best practice may change since it is a moving target. Therefore benchmarking should be seen as a continuous process. Performance indicators and performance enablers are changing. Recalibration of benchmarking is necessary to keep up with the best practice.

New benchmarking steps other than those described above are derived from the TELKOM's existing concepts. These steps are:

• Internal review
• Prepare site visit plan
• Benchmarking visit
• Analysis

The following is a discussion on these new steps.

• Internal review

Every TELKOM organisational unit regularly measures and reports their performance vis-a-vis the WCO criteria. The performance measurement is based on the definition of each criteria. For example, the measurement for installing new line is based on the date the application is approved and the date the line is connected (to function). There is no process identification and measurement of the processes involved. Internal review steps replace the first step of the procedural strategy to achieve WCO status that is "identify organisation process performance at the beginning of restructuring, KSO and IPO". This implies that internal review will be done once. Whereas, internal review means that the
process performance measurement is not done only once but it is part of benchmarking cycle. The steps of internal review are to show the appropriate steps and to emphasise the importance of internal review. The common practice of TELKOM in applying comparative study involves visits to other companies or other branches without internal review. Whereas Spendolini (1992) states that benchmarking the activities of others when you don't understand yourself is a waste of time. If one is going to compare oneself with someone else, one had better have a good sense of one's own performance first.

- **Benchmarking visit plan**

  Preparation of a benchmarking visit plan which is developed based on the internal review, provides guidance for the site visit. Development of a plan will facilitate the benchmarking visit. Skipping the planning phase to get started with real benchmarking (read partner visit), often results in industrial tourism (Andersen, 1995, p. 242).

The procedural steps taken from TELKOM’s existing concepts are:

- Identify best practice
- Determine improvement target
- Develop action plan.

These will be discussed as follows:
• **Identify best practice**

Identify best practice is a simplified form of “determine group of operators who are leaders in the industry to determine partners” that is the second step of the procedure for achieving the WCO status. This is an appropriate step because many industry leaders have different specialities. This allows TELKOM to choose appropriate partner for each benchmarking topic.

• **Determine improvement target**

This step is adapted from fourth step of the procedural strategy to achieve WCO status that is “determine improvement target until year 2001”. This means improvement target will be achieved in 5 years. However, the performance gap of every organisation unit on each benchmarking topic may be different because of different variables. The improvement target is determined by the ability of the resources available, therefore the time and effort to close or narrow the gap will be different as well. The time set to achieve the improvement target should be as short as possible since best practice is a moving target.

• **Develop action plan**

This step is adapted from the fifth step of the procedural strategy to achieve WCO status that is “develop action plan which includes the schedule of the plan to achieve the improvement target through rolling plan”. This is related to the five year plan of the improvement target. Nevertheless it is an adequate procedure even though the improvement target will be achieved in less or more that five year.

TELKOM’s benchmarking concept and the use of benchmarking as one of TELKOM strategies indicates the preferred policy is to process benchmarking
against external organisations. Even though this model was developed via an internal benchmarking on one benchmarking topic only, it is considered adequate for TELKOM since:

- It was developed for process benchmarking based on TELKOM’s existing concepts which cover TELKOM’s benchmarking concept, the procedural strategies to achieve WCO status and phases of BPR.
- The customised benchmarking model was developed via a process benchmarking pilot project as desired in TELKOM. The methodology for process benchmarking is the same regardless of the topic and whether the benchmarking is internal or external.
- The process benchmarking model includes only steps that equally apply to external or internal benchmarking namely:
  1. Identify best practice
  2. Prepare site visit plan
  3. Benchmarking visit
  4. Analysis:
     - analyse partner’s performance
     - identify gap and reasons
     - report and improvement target

These steps are adequate for external benchmarking. The success of external benchmarking depends on the benchmarkers ability to identify and analyse the benchmarking partner’s process.

- The steps undertaken in this pilot project further refined by adding several steps as identified from the purposes of using benchmarking and by considering common practice in TELKOM.
- The difference in conditions in every TELKOM’s organisational units can be harmonised by the supporting environment policy. The differences caused by
technology and work procedures will not influence the procedural steps but should be taken into account when performing the customised benchmarking procedural steps. (when undertaking benchmarking exercise).

6.4 Factors to be Considered

There are five factors, that need to be considered when conducting a benchmarking exercise in TELKOM. These factors are:

1. Number of organisational units.
2. The decentralisation strategy
3. Hardware/software aspects
4. Technological change
5. Administrative and data base system.

Let us examine each one in turn.

1. The number of organisational units.
   The company performance represents consolidated performance of 96 Kandatels, 609 Kancatels and 991 STOs. Each of these organisational units has a different performance, slightly different processes and procedures, and employs different types of technology. TELKOM has stated to carry out external benchmarking against world class foreign telecommunication operators. Since there are so many organisation units in TELKOM, the benchmarking studies should be confined to a few selected organisation units.

2. The Decentralisation Strategy
   The decentralisation being progressed through the KSO approach may cause diversity in the management style and operational process as well as the
technology used. This provides the organisation with an opportunity to carry out internal benchmarking. Internal benchmarking could take two forms: that is between TELKOM’s divisions and between KSO division and its principal. Such an internal benchmarking arrangement would also have features similar to external benchmarking, because each division is cooperating with different foreign operators. Furthermore, TELKOM could usefully establish an internal benchmarking network which is similar to the Telecommunication Benchmarking Consortium in the USA identified by Spendolini (1992). TELKOM’s benchmarking consortium could maintain much of the information needed in benchmarking exercises.

3. Hardware/Software Aspects

Performance on quality of service depends on the software (the people and the managerial system) and the hardware (technology used). These aspects should be taken into consideration when undertaking benchmarking exercises. The people and the system are factors that come from within the organisation, while the telecommunication equipment used often originates from outside the organisation. TELKOM may control and improve those factors from inside the organisation, but TELKOM only operates and maintains the telecommunication equipment. (TELKOM's research and development department currently concentrates primarily on the testing and the evaluation of new services and products). Since the telecommunication systems are supplied by various companies and some times depend on the countries which provide the funds (loan), they vary in both technology and capability.
4. Technological change

Information technology is rapidly changing. This means that service quality standards keep changing. TELKOM must prepare an adequate infrastructure that facilitates TELKOM keeping up with the changing technology. One functional strategy that may assist is to use benchmarking in preparing planning for infrastructure development. Benchmarking results also provide information on the best telecommunication equipment. This information may be used to determine what telecommunication equipment will be employed. As discussed at point 3, it is common practice that the telecommunication equipment are often supplied by the companies from countries providing the funds. This lessens the opportunity to choose the appropriate and better quality telecommunication equipment. The foreign partners in the KSO may also prefer to buy telecommunication equipment from their own countries. However benchmarking results may suggest that this common practice is no longer suitable for the sake of quality. TELKOM need to set the standards for the acquisition of the telecommunication equipment based on the benchmarking outcomes.

5. Administrative and data base system

Benchmarking is about information sharing. Information sharing requires a proper data base and administrative system to facilitate the flow of information. During the pilot project exercise, it took time to get the data because the data was not well organised and because lack of priority was ascribed.
6.5 Conclusion

The customised model contains details and sequential steps that emphasise the essence of benchmarking. This approach also avoids ambiguity since benchmarking is a new approach to Indonesia and specially to TELKOM. The major difference between the customised model and other benchmarking models lies in the action required to create the supporting environment particularly through the official endorsement of benchmarking and directives concerning timing of implementation. The customised model should find application as one of key elements of TELKOM's improvement strategy.
Chapter 7
Concluding Remarks

The literature review showed that the ideas behind benchmarking are improving and that striving for excellence through observing best practice, creates a better understanding of one's own processes. Therefore, prior to any study of other companies, benchmarking involves a thorough examination of the organisation's own processes, both to understand them, and to identify which of these has the highest impact on success or has the most urgent need for improvement.

Many organisations have seen fit to develop their own benchmarking method. The most common approach is to adopt a benchmarking process that suits an organization culture and existing quality improvement initiatives. However, successful benchmarking implementation requires the readiness of the organisation to institute change. The use of benchmarking in business practices has led to the development of several different types of benchmarking.

The literature review also confirms that for large organisations, such as multinationals or companies that are in monopoly situation, benchmarking is highly applicable.

The application of benchmarking is in Indonesia still in the introduction stages. Nevertheless, the introduction of benchmarking was found to be culturally acceptable within the Indonesian environment.
In studying the application of benchmarking within TELKOM, the author found that:

- The application of benchmarking by the organisation is still in the formative planning stage.
- Opportunity existed to develop a customised benchmarking model suitable for wide application across the organisation.
- The requirement would best be satisfied by adoption of process benchmarking approach.
- Benchmarking is compatible with other improvement approaches being implemented in TELKOM.
- The initial model developed by the author cannot be applied and the organisation needs a customised model.
- The most suitable model would be the customised model subsequently developed by the author. The refinements incorporated within this model provide advantages in that:
  - It was developed based on TELKOM's existing concepts and customised based on TELKOM conditions and environment. (These features will ensure its acceptance within TELKOM.)
  - The supporting environment included in the customised model will facilitate application of benchmarking across TELKOM.
  - The particular sequence of procedural steps will facilitate the conduct of benchmarking exercises within TELKOM.
Besides facilitating TELKOM to achieve its goals, some other benefits of the organisation using benchmarking will be:

- The increased opportunity to bring about the lasting cultural changes.
- The facilitation of the monitoring of the progress of quality improvement by external benchmarking and internal benchmarking
- The outcome will enable TELKOM to set a more appropriate standard for acquisition of the telecommunication equipment by the KSO partners and loan. (The KSO arrangement enables TELKOM to carry out internal benchmarking which is similar to external benchmarking.)

The strategy recommended to TELKOM management to ensure successful benchmarking implementation would have the following features:

- Benchmarking should be incorporated officially into the TELKOM improvement program, as it is common practice in TELKOM that every program should be officially endorsed. Besides, the improvement and quality campaign is necessary to gain employees commitment.
- TELKOM management should determine Critical Success Factors for the organisation. These provide an appropriate basis to determine benchmarking topics and to avoid the overlapping of benchmarking exercises conducted for different purposes. The WCO criteria are recommended CSFs for TELKOM.
- Benchmarking would be more efficient and effective if it is carried out first by undertaking external benchmarking of several of the company's units, which are representative of the company, and then followed by internal benchmarking other units within the company against these.
- It is best for TELKOM to carry out benchmarking in a pilot project as part of the TQM program as a successful benchmarking program in a pilot project will facilitate the introduction of benchmarking in other organisational units across TELKOM.
• Internal benchmarking networks should be established to facilitate internal benchmarking.

• Use should be made of the quality office of TELKOM which should be made responsible to develop a comprehensive benchmarking program which includes:
  - The appointment of a project manager for benchmarking program
  - The development of training material.
  - The development of guidelines for the benchmarking exercise.
  - The development of company's benchmarking code of ethics.
  - The development and maintenance of internal benchmarking network

• The information data base and the administration needs improvement to facilitate the information sharing.

• Recalibration in benchmarking should be pursued once the program is up and running.
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Background

The ultimate aim of this pilot project is to evaluate the author’s initial model through an actual case study and refine it if necessary to develop an appropriate model for TELKOM.

During the initial phase of the field research, the author tried to find evidence of existing benchmarking programs at TELKOM. There were several perceptions of benchmarking such as visiting other companies, copying, and real benchmarking. However, no evidence was found of detailed procedure describing the implementation of these benchmarking perceptions. Benchmarking is an upcoming program as planned in TELKOM’s Long Term Planning 1996-2000. The author concluded the benchmarking program in TELKOM was very much in the initial phase.

TELKOM’s benchmarking concept, the steps to achieve the WCO status and the BPR phases /steps were analysed to establish the core of an appropriate benchmarking model. This initial model was then tested in a pilot project, from which a customised and appropriate model could be developed. Another model
used as a reference in developing and refining the model was the Monash model with which some of TELKOM's employee were familiar as a consequence of a benchmarking seminar and work shop held in 1994 by Johanna Macneil and Prof. Rimmer from Monash University.

**Choice of Benchmarking Model**

The model used in the pilot project called the initial model is a hybrid model derived by comparing TELKOM's benchmarking definition, the steps taken by TELKOM to achieve the WCO status and the BPR program in TELKOM.

The initial model involved the adoption of the following procedures:

1. Identify the processes and their performance
2. Identify best practices, their processes and performances
3. Determine the gaps

In formulating this initial model, the author built on the concepts the company already in place rather than using other frameworks. The intention was that this model be, if necessary, refined into a better model based on the experience obtained in the pilot project in TELKOM. Such an approach would allow the model to be better customised to TELKOM's conditions and environment.
**Methodology Adopted in Pilot Project**

When this initial model was tested, the procedure below were adopted:

1. **A Benchmarking Team was formed**

   The first step of the initial model could not be implemented before determining what was the benchmarking topic. It was decided to form a benchmarking team given the author's non familiarity with TELKOM's business and the limited time available for the pilot study. It was expected that TELKOM's employees who had attended benchmarking seminar and workshops in 1994, would be available to help. Unfortunately only one employee was available to facilitate the site visit although two others were available to discuss benchmarking issues within TELKOM.

2. **The benchmarking topic was determined**

   The major factors considered in determining the benchmarking topic related to it being of the WCO criteria and the fact telephone lines are highly demanded in Indonesia. Beside, the WCO criteria is suggested as the CSFs for TELKOM. Benchmarking against the WCO criteria can not be carried out all at once because each topic of the WCO criteria consists of several processes.

   TELKOM's measurement of "new lines installation" is from the date of approval on application to the date of the first telephone call (to function)"

   The application will be approved only if "installed lines" are available.
Installed lines means line in service and lines fully built out to the distribution point and ready to be connected to subscribers.

3. Determine pilot project and benchmarking partner

TELKOM headquarters does not directly perform evaluation against the WCO criteria. TELKOM's overall performance against the WCO criteria reflects the performance combination of branches that directly performed those services. The author believe the most appropriate body to carry out benchmarking against the WCO criteria is the organisation units that directly performs the WCO criteria.

TELKOM is the only telephone operator in Indonesia. Consequently, benchmarking partners and the best practices on the WCO criteria lie overseas. The TELKOM benchmarking program is intended to involve benchmarking against other world class operators, but the TELKOM TQM program with NEPOSTEL contains internal benchmarking program. Furthermore, TELKOM's performance report shows that some TELKOM's branches achieve one or more of the WCO criteria. These reports were used to identify internal benchmarking partners. This lead to Kandatel Bogor being decided as the object of the pilot project. Initial contact was made and it was agreed. Kandatel Bandung
subsequently agreed to become benchmarking partner after this was officially permitted by the headquarters.

4. Identify the processes and their performance

Generally Kandatel Bogor did not know anything about benchmarking. Brief explanations were attempted. Even though Kandatel Bogor had its performance report measured against the WCO criteria, Kandatel Bogor had not documented its processes. This meant, the processes related to the new lines installation were then identified, documented and measured. Since the measurement of new line installation is time based, the process's performance measurement was also time based.

5. Identify benchmarking partner's processes and performances

After Kandatel Bandung has been selected list of data required was also sent. Unfortunately, during the first benchmarking visit the required data was not available. Therefore it was decided to identify, document and measure the processes here also.

6. Determine the gaps

The pilot study involved comparing Kandatel Bogor's performance against Kandatel Bandung's performance. The comparison included overall process
related to new line installation, process performance and process enablers. The performance gap and reasons were identified.

7. Benchmarking Report

The performance gap, reasons and recommendations were documented in a brief benchmarking report. This report will be taken into account in planning of future development program in the following financial year.

8. Action

An action plan was not prepared for this pilot project. Management will prepare an action plan as part of Kandatel Bogor's formal plan.

Result of the Benchmarking Exercise

Below is reported the outcome of the pilot project for which the benchmarking topic was new line installation. It covers:

1. Performance Comparison for line installation
2. Processes involved in new line installation
3. Process measurement
4. Performance indicators
5. Analysis of Result
6. Conclusion
7. Recommendation

8. Limitation of the Pilot Project Studies

1. Performance Comparison for Line Installation

<table>
<thead>
<tr>
<th></th>
<th>BOGOR</th>
<th>BANDUNG</th>
</tr>
</thead>
<tbody>
<tr>
<td>Standard</td>
<td>7 days</td>
<td>4 days</td>
</tr>
<tr>
<td>Percentage achieve standard</td>
<td>71.18 %</td>
<td>80.76 %</td>
</tr>
</tbody>
</table>

2. Processes involved in new lines installation

There are two key processes in new lines installation:

- Administration process
- Technical process

The processes sequences are shown in flow charts 1 and 2. The following is the description of the processes.

B O G O R

Here the administration process involves:

I. Service Point

1. Approve application for new line
2. Prepare invoice (tel 69)
3. Prepare cash received report (tel IX/3) based on invoice (tel 69)

4. Transfer invoice (tel 69) to Service Administration

II. Service Administration

Based on invoice (tel 69), service administration prepares job order form (tel 25) on-line to network administration, Main Distribution Frame (MDF) and Switching.

III. Network administration

1. Fills job order form (tel 25) with network data

2. Distributes job order form (tel 25) to local networks 1 to 4 and to MDF.

Technical Process involves:

IV. Local Network 1 to 4

1. Receive job order form (tel 25) as job order

2. Install new line: install additional cable from distribution point to terminal / handset.

3. Check the tone with MDF (Main Distribution Frame)

4. Get confirmation from the new subscriber.

5. Prepare report on job completion to service administration.
V. MDF (Main Distribution Frame)

1. “Measure and jump” (the network communication testing) based on information (tel 25) from local network

2. Complete job order (tel 25) as a report to service administration

VI. Switching

1. Receive completed job order (tel 25) from service administration

2. Open blocking

BANDUNG

Here the administration process was found to involve the following steps:

I. Service point

1. Serve the applicant

2. Open marketing menu

3. Entry applicant data

4. Identify distribution point in the applicants area

5. If the line available prepare the bill for connection fee

6. Cashier process the payment and invoice (tel 69) distribute it to service administration (on-line).
II. *Service Administration*

1. Receive (on-line) invoice (Tel 69)

2. Check applicant data

3. Distribute (on-line) job order (tel 25) to Local network, Main Distribution Frame, Switching and subscriber data base.

III. *Local Network*

1. Receive and print job order (tel 25) as job order

2. Pass job order (tel 25) to contractor

IV. *Contractors:*

1. Installation process: additional cable from distribution point to terminal (handset)

2. Check the connection with MDF

3. Report: entry data on job order (tel 25) (date start and completion of new line installation)

V. *Main Distribution Point (MDF)*

1. Receive job order (tel 25)

2. Test network communication ("measure and jumper") with Local network/contractor
3. Entry testing result and the connection date.

V. Switching

1. Receive tel 25 (job order)

2. Prepare port number and meter call (open blocking)

3. Entry data to computer
3. Process Measurement

<table>
<thead>
<tr>
<th>Department</th>
<th>Days</th>
<th>Department</th>
<th>Days</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>A. Administration:</strong></td>
<td></td>
<td><strong>B. Technical:</strong></td>
<td></td>
</tr>
<tr>
<td>1. Service Point</td>
<td>1</td>
<td>1. Local network</td>
<td>2-7</td>
</tr>
<tr>
<td>2. Service Administration</td>
<td>1</td>
<td>2. MDF</td>
<td>1</td>
</tr>
<tr>
<td>3. Network Admin</td>
<td>same day</td>
<td>3. Switching</td>
<td>same day</td>
</tr>
<tr>
<td><strong>Sub Total</strong></td>
<td>2</td>
<td><strong>Sub total</strong></td>
<td>5-30</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td>6-30</td>
<td><strong>TOTAL</strong></td>
<td>2-30</td>
</tr>
</tbody>
</table>

Table A.1 Performance Comparison
4. Performance Indicators

<table>
<thead>
<tr>
<th>Measurement Variables</th>
<th>BOGOR</th>
<th>BANDUNG</th>
</tr>
</thead>
<tbody>
<tr>
<td>Existing Subscriber</td>
<td>38060</td>
<td>178363</td>
</tr>
<tr>
<td>New lines installed/month</td>
<td>210</td>
<td>336</td>
</tr>
<tr>
<td>Application per month</td>
<td>295</td>
<td>416</td>
</tr>
<tr>
<td>Employees *</td>
<td>71</td>
<td>478</td>
</tr>
<tr>
<td>Employees **</td>
<td>133</td>
<td>932</td>
</tr>
<tr>
<td>Total Kandatel’s employees</td>
<td>335</td>
<td>1880</td>
</tr>
</tbody>
</table>

Table A.2 Variables of Performance Indicators

Notes

Employees* = Technical employee

(Kandatel Bandung consist of 268 Kandatel's employees and 210 contractors' employees)

Employees ** = all employee involved in installing new lines (both administration and technical employees).
Performance Indicators Measurement:

<table>
<thead>
<tr>
<th>Variable measured</th>
<th>BOGOR</th>
<th>BANDUNG</th>
</tr>
</thead>
<tbody>
<tr>
<td>Employees* per New line installed</td>
<td>71/210 = 1:3</td>
<td>478/336 = 1.42:1</td>
</tr>
<tr>
<td>Employee* per existing subscribers</td>
<td>71/3860 = 1:536</td>
<td>478/17863 = 1:373</td>
</tr>
<tr>
<td>Employee* per application for new line</td>
<td>71/295 = 1:4.15</td>
<td>478/416 = 1:15:1</td>
</tr>
<tr>
<td>Employee** per Total employee</td>
<td>133/335 = 1:2.51</td>
<td>932/1880 = 1:2.01</td>
</tr>
</tbody>
</table>

Table A.3 Comparison of Performance Indicators

5. Analysis of Results

- Administration process:

Bogor:

There are three administration departments at Kandatel Bogor and it takes 2 to 3 days for new lines to be installed. Even though the computer system is on-line but each department enters data sequentially. For example, MDF has received tel 25, but it has to wait for the new lines numbers from network administration that have to be jumpered.
Bandung:

Here a computerised information system named 'SISKAMAYA' enables Kandatel Bandung to complete administration in one day. All information related to the new lines is available on the data base and capable of being retrieved by related departments. When the applicant pays the connection fee, the completed tel 25 (job order) is produced by Network administration and distributed (on-line) to related departments.

• Technical Process

Bogor:

Here inhibiting factors related to the technical tasks of installing new lines includes:

- Limited employees

- Limited supporting equipment (vehicles etc)

Bandung:

Here all the technical tasks in new line installation (from distribution point to the customer’s place) are done by contractors. They do not have the resources constraint applying to Bogor. This enables Kandatel Bandung to install new lines faster.
6. Conclusions:

Kandatel Bandung’s performance is much superior than Kandatel Bogor in two areas:

* New line installation standards (4 days compared to 7 days for Bogor)
* Achievement to standard 80.76% versus Bogor’s 71.18%.

The performance enablers identified were:

- The “SISKAMAYA” (computerised system)
- The use of contractors to install new lines.

7. Recommendation:

Recommendations to improve the performance of Bogor operation are:

1. Reduce the administration time by improving existing computerised system that enables one stop service.

2. Improve accuracy of network data by conducting routine surveys of the network condition. This will reduce the time taken for administration tasks by one day, even though the computerised system has not been installed.

3. Employees in administration task could be transferred to technical task under multi-skilling arrangement. The use of contractors also should be considered.

4. Additional supporting equipment should be procured.
8. Limitation of the pilot project studies

This pilot project involved only internal process benchmarking and one benchmarking topic. TELKOM has indicated that it prefers to employ external benchmarking. Therefore the benchmarking steps should be developed based on TELKOM's, particularly Kandatel Bandung's and Kandatel Bogor's environment and conditions. Nevertheless the initial regulation of the processes and procedures are the same throughout TELKOM. External benchmarking requires carefulness in determining the measurement and other related variables to get an 'apple to apple" comparison.

The author observed that organisation restructuring, KSO preparation and the IPO (Initial Public Offering) preparation were three big activities in TELKOM during the time of this field study. Everybody in the headquarters seemed preoccupied with these activities.

One objective of the restructuring program is to reduce the number of employees in the headquarters. There were approximately 4000 employees to be reduced to approximately 800. Only 3 employees who attended the Monash benchmarking seminar and workshop remained in Bandung. These employees had huge work pressures on them, therefore they were not able to spare time for full participation in this benchmarking pilot project.
During the IPO preparation, restrictions were encountered in the research especially for data related to financial performance and projection of the financial performance. When Kandatel Bandung was requested as the benchmarking partner for Bogor, the manager required the author seeking official permission from the Corporate Secretary which took few days.

The data itself has limitations also because of a lack of proper data documentation and data bases, as well as the activities of the employees who keep the data. For example, it took ten days to get the list of employees who attended the benchmarking seminar and workshop, since the employee who kept the data was on leave. Inadequate technical knowledge in telecommunication business was also the limitation on this pilot project. Some technical processes and technical terms were found to be obstacles in conducting the proper pilot project.

Notwithstanding, the pilot project provided valuable insight into the requirements for successfully undertaking benchmarking exercise.
Appendix B

TELKOM's Headquarters Organisation Structure

Source: TELKOM
Appendix C.

TELKOM's Regional Divisions

Source: TELKOM
Appendix D

The World Class Operator Criteria

1. Pasang Baru: maksimal 3 (tiga) hari
2. Gangguan dapat diatasi: kurang dari 24 jam
3. Ratio gangguan telepon pelanggan: maksimal 1 telepon/100 sst dalam 1 tahun
5. Directory up-date Operator Service: siap 24 jam
6. No Measure Dial Tone Delay: tidak ada delay
7. Blocking Network: lebih kecil dari 1%
8. Call Completion Rate: 99%

Source: TELKOM