

3. PEROLEHAN DAN PENGUMPULAN DATA

3.1. Gambaran Umum Perusahaan

PT XYZ merupakan perusahaan jasa penyedia dan pengelola jaringan telekomunikasi dengan spesialisasi penyedia infrastruktur telekomunikasi dan jasa perangkat lunak teknologi informasi. Pendirian perusahaan pada tahun 1996 di Bandung, pada awalnya untuk mengakomodasikan kebutuhan nasional PT Pos Indonesia sebagai penyedia jasa internet (*Internet Service Provider/ISP*) dengan menyediakan 100 lokasi jaringan BSAT saat ini telah memiliki kurang lebih 190 jaringan melalui VSAT (satelit) dan beberapa melalui *wireless* radio.

Dalam perkembangannya saat ini perusahaan telah menyediakan layanan kepada beberapa BUMN seperti PT. PLN (Persero) Unit Bisnis Distribusi Jawa Tengah, PT. PLN UBD Jawa Barat, PT. PLN UBD Bali, PT TELKOM Tbk, PT. Asuransi Jiwasraya, Indosat dan beberapa perusahaan swasta lokal dan asing seperti VICO, EXXON Mobil, Unocal, Dos Ni Roha Telkomsel, XL-COM, PT. Tangara dan lain-lain.

3.1.1. Visi, Misi dan Strategi

3.1.1.1. Visi

Menjadi penyedia dan pengelola jaringan komunikasi unggul dan solusi teknologi informasi yang mapan dan kompetitif.

3.1.1.2. Misi

Menyediakan suatu komunikasi yang efisien dan solusi teknologi informasi.

3.1.1.3. Strategi

Melakukan penetrasi pasar dengan mengandalkan kekuatan hubungan/relasi, produk yang canggih dan sesuai dengan permintaan/kebutuhan pasar dengan dukungan mitra-mitra utama.

3.1.2. Produk

Ada dua kategori produk:

a. Produk jaringan:

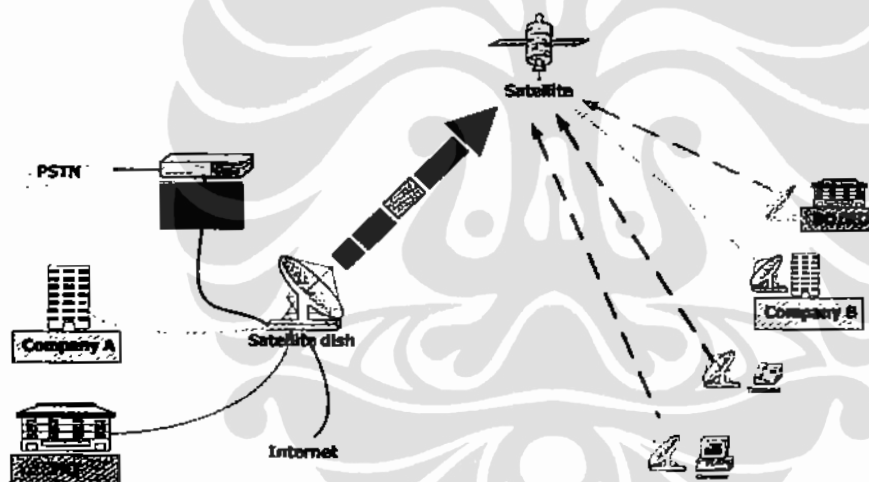
- VSAT IP (*VSAT Broadband*)

VSAT merupakan sebuah sistem komunikasi melalui perantara satelit yang berbasis *Internet Protocol (IP)* dan memiliki kemampuan menangani transmisi data berkecepatan tinggi serta memiliki area cakupan yang luas (*unlimited reach*).

VSAT IP yang dimiliki yaitu:

- *IP Broadcast (push) Services*
- *IP Interactive Services*
- *Corporate and Institutions*

Konfigurasi jaringan VSAT IP yang dimiliki perusahaan:



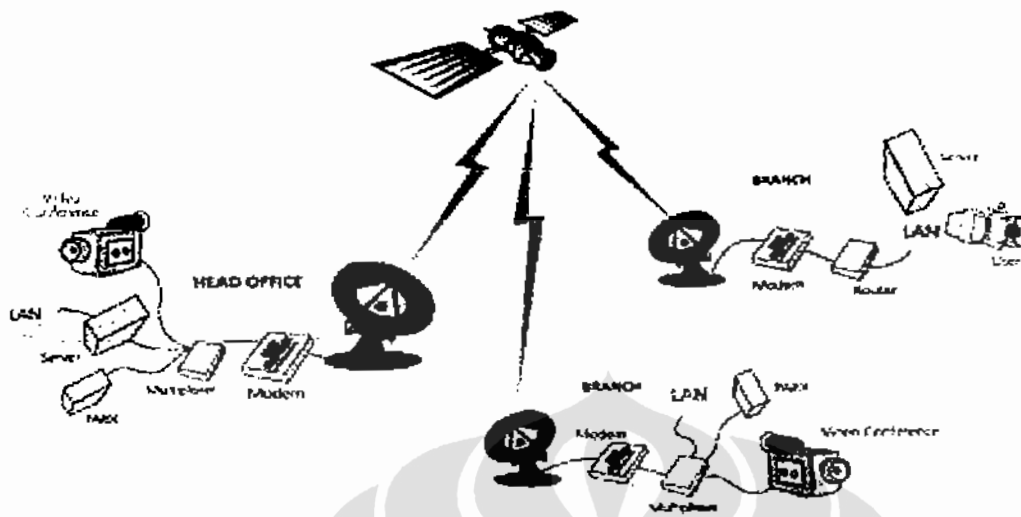
Gambar 3.1 Konfigurasi Jaringan VSAT IP

(Sumber: PT XYZ)

- VSAT SCPC (*VSAT Single Carrier Per Channel*)

Merupakan pilihan yang paling tepat untuk jalur komunikasi yang padat dan *high priority transfer*. Alat bantu yang digunakan tergantung pada kebutuhan konsumen. VSAT SCPC biasanya digunakan pada industri pertambangan, minyak dan gas bumi, operator telekomunikasi *mobile/fixed*, *backbone transmission*, *WAN/LAN internetworking*.

Konfigurasi jaringan VSAT SCPC:



Gambar 3.2 Konfigurasi jaringan VSAT SCPC

(Sumber: PT XYZ)

- **Wireless Radio/GPRS/CDMA**

Low speed solutions merupakan jaringan telekomunikasi yang menggunakan *point to point*. *Wireless radio* adalah sistem komunikasi *wireless* yang menawarkan pelayanan koneksi ke jaringan komputer. Sistem ini dapat digunakan untuk memperluas jangkauan jaringan lokal (LAN) yang telah ada, dan dapat pula berfungsi secara independen. *Wireless radio* sangat berguna untuk instalasi jaringan komputer secara cepat di tempat-tempat dimana pemakaian kabel menjadi masalah, misalnya daerah dimana pemasangan kabel sangat sulit, lingkungan yang berubah dengan cepat. Dengan bantuan *Wireless radio*, konfigurasi jaringan dapat digunakan tanpa biaya tambahan. Saat ini *WaveLan* menggunakan teknologi terbaru dalam transmisi data menggunakan media radio. Teknologi tersebut dikenal dengan *Code Division Multiple Access (CDMA)* yang bertumpu pada teknologi *Direct Sequence Spread Spectrum (DS-SS)* yang diturunkan dari teknologi militer Amerika Serikat untuk transmisi data yang tidak mudah dilacak maupun tidak mengganggu transmisi yang ada.

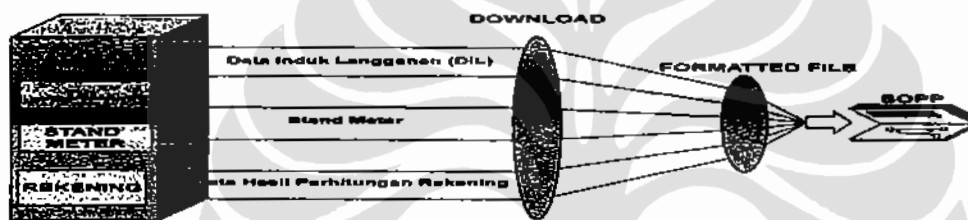
b. Produk teknologi informasi

- SOPP (*System Online Payment Point*)

SOPP merupakan solusi teknologi informasi yang digunakan untuk mendukung transaksi *on-line, point of sales application*. Distribusi layanan SOPP yang ada pada perusahaan adalah:

- ✓ PT PLN (Persero) UBN Bali: 8 AP, 171 Payment Point, ± 600 ribu pelanggan
- ✓ PT PLN (Persero) UBD Jawa Tengah: 10 AP, 976 Payment Point, 1557 loket, ± 5 juta pelanggan.

Bentuk *interface* SOPP:



Gambar 3.3 Bentuk *interface* SOPP

(Sumber: PT XYZ)

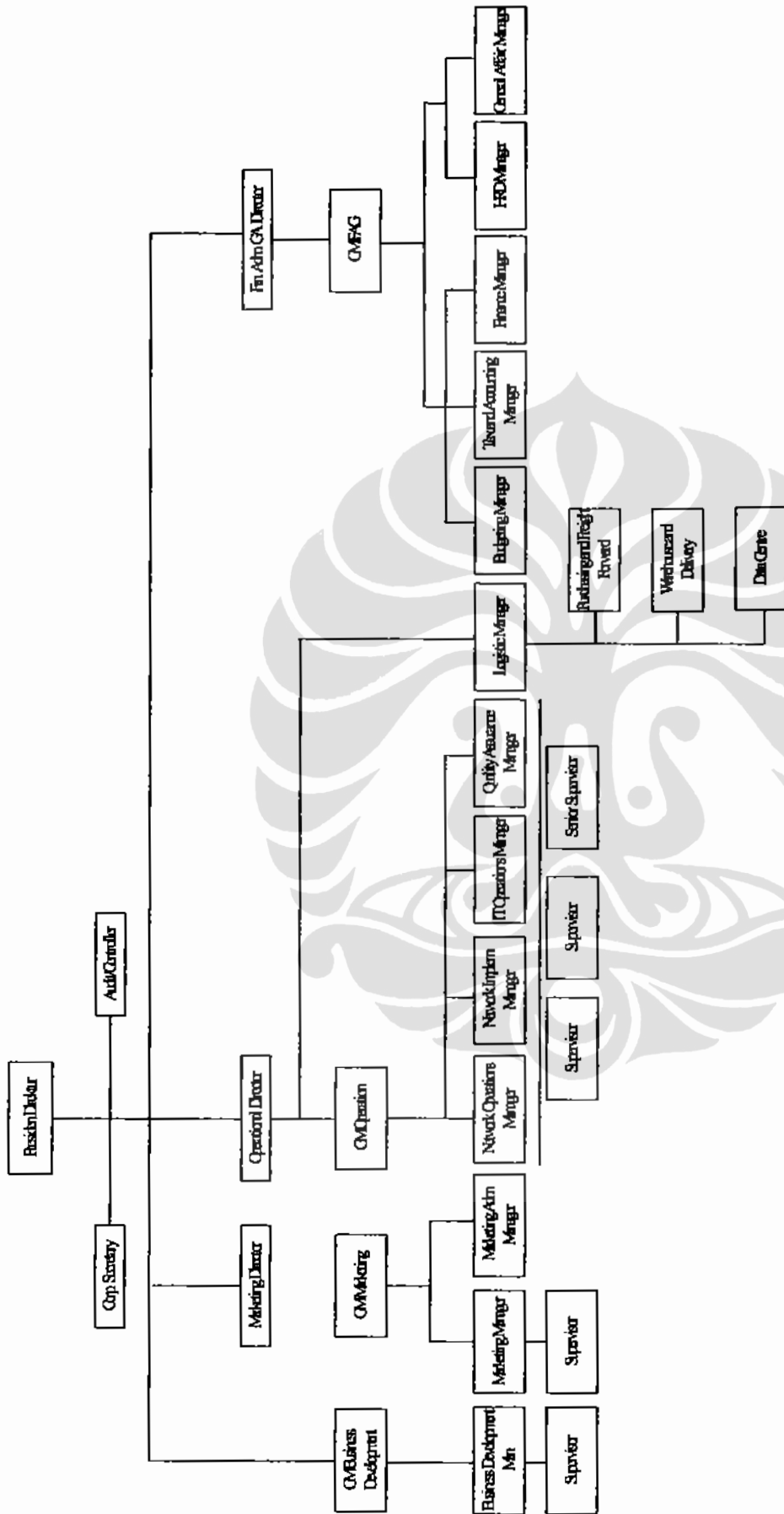
Ruang lingkup dalam SOPP meliputi penyediaan tenaga operasional, penyediaan *software* dan *hardware*, penyediaan sarana komunikasi data, instalasi *software* dan *hardware*, pelatihan dan sosialisasi aplikasi, pemeliharaan *software* dan *hardware*.

- SIMDIS (Sistem Informasi Manajemen dan Distribusi)

Merupakan aplikasi *database* pelanggan.

3.1.3. Struktur Perusahaan

Perusahaan ini memiliki 8 departemen yaitu departemen akuntansi, departemen keuangan, departemen pengembangan bisnis, departemen logistik, departemen bidang umum, departemen pemasaran, departemen HRD, departemen Operasional Teknologi.



Gambar 3.4 Struktur Organisasi Perusahaan
(Sumber: PT XYZ)

3.1.4. Pangsa Pasar

Perusahaan memberikan layanan jasanya bagi beberapa bidang industri antara lain:

- a. Instansi pemerintahan yaitu PLN, Postel dan Polisi.
- b. *Oil company* yaitu Exxon Mobile, Pertamina, Unacol, VICO, Petro China, BP Migas, Cap Rock
- c. Telekomunikasi yaitu Indosat, HCPT, XL-Com, Telkomsel, Telkom, Sampoerna Telecom
- d. *Manufacturing* yaitu Krakatau Steel
- e. Perbankan yaitu Bank Danamon, Bank BNI, Bank Bukopin (Koperasi)
- f. *Government Project* yaitu BRR Aceh

3.2. Proses Bisnis Perusahaan

3.2.1. Latar Belakang Perusahaan Menggunakan SBO sebagai Sistem ERP

Perusahaan secara konsisten menyediakan jaringan dan teknologi informasi bagi industri-industri seperti *mining, oil & gas, power companies, telephone & mobile operator, internet service providers, banking & insurance, capital market, manufacturing, supply chains, university & education and hotel & resort.*

Seiring dengan perkembangan zaman dan pesatnya kemajuan akan teknologi informasi, perusahaan ini dituntut dapat mempertahankan posisinya di pasar. Untuk itu, pihak manajemen mencari solusi yang terbaik dengan menerapkan sistem *Enterprise Resource Planning (ERP)*.

3.2.2. Manfaat SBO sebagai Sistem ERP Perusahaan

Adapun manfaat yang ingin diambil oleh banyak perusahaan dengan mengimplementasikan SAP Business One sebagai sistem ERP Perusahaan adalah:

1. Mengurangi siklus waktu *order processing*.
2. Meningkatkan pelayanan pengiriman (*on-time delivery*).
3. Memperpendek waktu penutupan laporan keuangan bulanan dan tahunan.
4. Mengadaptasi proses bisnis terbaik di dunia sesuai dengan bidang bisnisnya (*best practice solution*).

5. Memperbaiki kinerja manajemen persediaan barang.
6. Menyediakan dan melengkapi perusahaan dengan data transaksi yang akan datang sebagai dasar/alat untuk memutuskan suatu masalah (strategi).
7. Memperbaiki integrasi dan kerjasama antar peran dan fungsi yang berbeda dalam organisasi.
8. Meningkatkan akurasi informasi dengan detil data yang lebih lengkap, mudah dibaca dan dianalisis.
9. Membantu meningkatkan fungsi kontrol baik untuk pembayaran, penerimaan tagihan dan terhadap biaya-biaya di dalam perusahaan.

3.2.3. Aliran Proses Bisnis Penerapan Implementasi SAP *Business One*

SAP *Business One Support* telah mengembangkan suatu konsep operasi dan implementasi yang terintegrasi yang memungkinkan SAP *Business One Partners* dan pelanggannya mengimplementasikan dan mengoperasikan sistem SAP *Business One*. Berikut dibawah ini pernyataan dari implementasi ERP di Perusahaan diantaranya:

1) Misi proyek dan sasaran

Misi proyek:

"To enable company to have control management capability by standardizing business processes using an integrated systems"

Memungkinkan perusahaan untuk memiliki kemampuan manajemen kontrol dengan menstandarisasikan proses bisnis dengan menggunakan sistem terintegrasi.

Sasaran proyek:

- Mengganti sistem yang lama:
 - Menyediakan suatu sistem yang terintegrasi sehingga mendukung perencanaan dan sasaran perusahaan.
 - Menyediakan pondasi yang kuat untuk memperluas bisnis di masa yang akan datang.
- Meningkatkan produktivitas
 - Operasional yang lebih efektif dan efisien dengan menggantikan *workflow* manual.

- Sumber data tunggal yang telah distandarisasi, dapat dipercaya dan secara konsisten menyediakan laporan untuk lintas departemen.
- Tingkat keamanan dan kendali yang tinggi.

2) Perencanaan proyek

Dalam perencanaan proyek implementasi sistem ERP, pihak perusahaan dan konsultan telah mendiskripsikan fase-fase dan *deliverable* yang ada nantinya.

Tabel 3.1 Perencanaan proyek implementasi sistem ERP

| No. | Tahap | Deliverable |
|-----|---|---|
| 1 | <p>Fase Blueprint</p> <p><i>To-be business process workshops</i></p> <p><u>Pendekatan:</u> <i>Business Owner</i> mendiskusikan <i>To be Process</i> dengan konsultan untuk menghasilkan <i>To be Process</i>.</p> | <p>Catatan: Dokumen <i>To-be</i> merupakan dokumen yang sangat penting karena bertindak sebagai <i>blueprint</i> (mendesain dokumen). Semua aktivitas berdasarkan pada dokumen tersebut.</p> <p>Hasilnya:</p> <ul style="list-style-type: none"> - <i>To Be Document</i> |
| 2 | <p>Fase Realisasi</p> <ul style="list-style-type: none"> ✓ Konfigurasi sistem ✓ Mengembangkan <i>Add On</i> ✓ Mengembangkan <i>Interface</i> ✓ Mengembangkan laporan ✓ Menguji sistem | <ul style="list-style-type: none"> • <i>Add On</i> • <i>SBO Blueprint</i> • <i>Testing Scenario</i> • <i>Interface</i> |
| 3 | <p>Fase Final Preparation</p> <p>Sosialisasi: Proses <i>To be</i>, Pelatihan <i>End User</i>.</p> <p><u>Pendekatan:</u> <i>Class room</i> – pelatihan diselenggarakan oleh pimpinan tim.</p> <p><u>Tujuan:</u></p> <ul style="list-style-type: none"> - Untuk mengkomunikasikan proses <i>To be</i> - Memberi pelatihan bagi <i>end user</i> | <ul style="list-style-type: none"> • <i>User Manuals</i> • <i>Training material</i> • <i>Training Data</i> • <i>Trained End Users</i> |
| 4 | <p>Fase Go Live & Support</p> <ul style="list-style-type: none"> • <i>Pseudo Go Live</i> • <i>Cutover Activities</i> • <i>Post Go Live Support</i> | <ul style="list-style-type: none"> • <i>Tested Cutover plan</i> • <i>Working SBO systems</i> • <i>Working Support Team</i> |

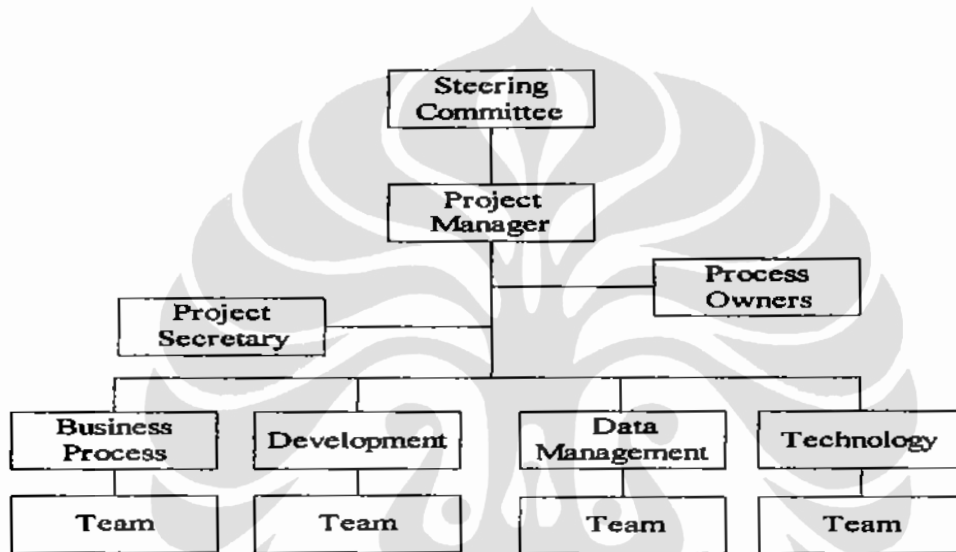
Sumber: PT XYZ

3) Faktor kunci sukses

Beberapa faktor kunci sukses dalam implementasi ERP:

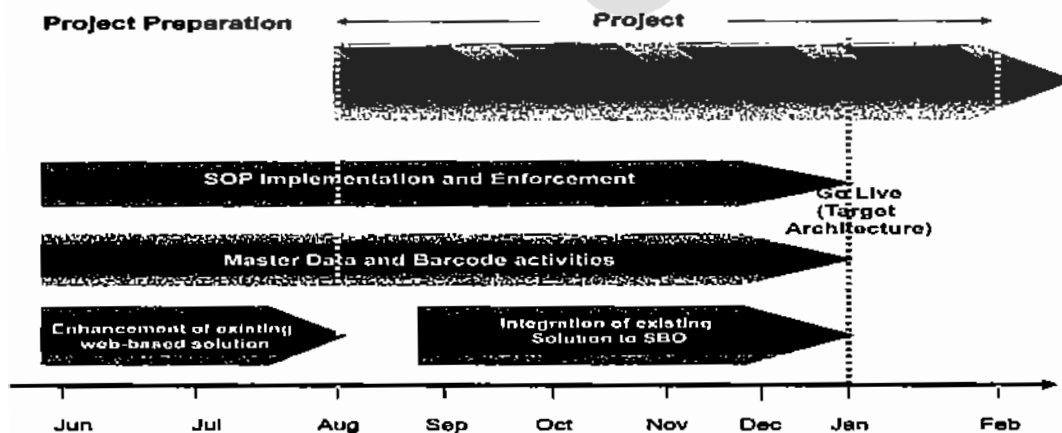
- Komitmen dan keterlibatan manajemen
- Kesejajaran kepemimpinan: satu visi/tujuan
- Dukungan pelaku bisnis
- Manajemen proyek yang kuat
- Tim proyek yang kuat

4) Struktur organisasi proyek



Gambar 3.5 Struktur organisasi proyek

5) Scheduling Implementasi SBO



Gambar 3.6 Scheduling Implementasi SBO

(Sumber: PT XYZ)

3.2.4. Ruang Lingkup Implementasi

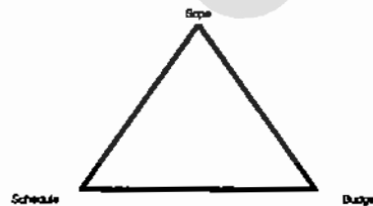
Berdasarkan area bisnis perusahaan, ruang lingkup proyek yang dibutuhkan didalam merencanakan sistem informasi adalah *marketing*, *operasional teknologi (OPTEK)*, *logistik*, *keuangan*, dan *akunting* yang dapat dimobilisasi seluruhnya oleh *software SBO*.

Tabel 3.2 Modul SBO yang diimplementasi

| Area | SBO Modul |
|--------------------------------|--|
| Pemasaran (<i>marketing</i>) | <i>Contact management</i> , pengelolaan order penjualan, <i>quotations</i> , <i>invoices</i> , permintaan pembelian, pengembalian barang. |
| Operasional Teknologi (OPTEK) | <i>Check stock</i> di sistem. |
| Logistik | <i>Item queries</i> , <i>item management</i> , <i>warehouse transfer</i> , <i>pick and pack</i> , <i>release for stock</i> , <i>receipt to stock</i> . |
| Keuangan | GL (General Ledger), <i>journal entries</i> , pembayaran angsuran, piutang, hutang, laporan keuangan, transaksi ke karyawan. |
| Akunting | GL (General Ledger), <i>chart of accounts</i> , <i>journal entries</i> , <i>bank reconcile</i> . |

Sumber: PT XYZ

Penentuan ruang lingkup proyek di awal perencanaan adalah hal yang sangat penting, karena terkait dengan prediksi besarnya biaya investasi yang harus dikeluarkan perusahaan (*Budgeting*) dan prediksi lamanya proyek akan berlangsung (*Scheduling*).



Gambar 3.7 Tiga Faktor penentu kelangsungan proyek

3.3. Pengumpulan Data dalam Implementasi SAP dengan ASAP

Untuk setiap implementasi sistem ERP berbasis SAP *Business One* ada standar kegiatan yang harus dibuat agar menunjang keberhasilan proyek implementasi.

3.3.1. Standar Kerja dan Operasi pada Tahapan Persiapan Proyek

Tabel 3.3 Standar Kerja dan Operasi pada Tahap Persiapan

| | DESKRIPSI PEKERJAAN | RISIKO YANG INGIN DIDAPATKAN | OUTPUT | ADOKASI (SEMENTARA) |
|----------|-----------------------------------|--|---|--|
| 1 | General project management | | | |
| 1-1 | Serah terima dokumen dari sales | Mengambil informasi mengenai proses sales, customer, schedule dan bisnis <i>Project risk</i> sudah diukur dan diinvestigasi | <ul style="list-style-type: none"> • <i>Handover</i> dari sales checklist • <i>Project risk assesment</i> | <i>ERP project manager, consultant, account manager</i> |
| 1-2 | Menetapkan project organization | Memastikan project responsibilities secara internal | | <i>ERP project manager, consultants, account manager</i> |
| 1-3 | Melakukan internal kick-off | Mengkomunikasikan project plan | <ul style="list-style-type: none"> • <i>Project plan</i> | <i>ERP project manager, consultants, account manager</i> |
| 2 | Persiapan project kick-off | | | |

Tabel 3.3 Standar Kerja dan Operasi pada Tahapan Persiapan Proyek (lanjutan)

| # | DESKRIPSI PEKERJAAN | HASIL YANG DINGINKAN | OUTPUT | ALOKASI SUMBER |
|----------|---------------------------------------|---|--------------------------------------|---|
| 2-1 | Komunikasi dengan <i>customer</i> | <ul style="list-style-type: none"> - Konfirmasi ketersediaan <i>hardware</i> dan sumberdaya - Konfirmasi tanggal dan agenda untuk melakukan <i>kick-off</i> | | <i>ERP project manager, client project manager</i> |
| 2-2 | Membuat presentasi <i>kick off</i> | Presentasi <i>kick off meeting</i> dengan agenda dan <i>project plan</i> | <i>Kick off meeting presentation</i> | <i>ERP project manager, consultant, account manager</i> |
| 3 | <i>Kick-off meeting</i> | | | |
| 3-1 | Penyerahan <i>software</i> | Mendapatkan <i>signed delivery receipt</i> | <i>Software Delivery Receipt</i> | <i>ERP project manager, client project manager</i> |
| 3-2 | Install SAP | <i>ERP functional</i> dan pemasangan demo <i>database</i> pada <i>client hardware</i> | | <i>ERP project manager, client IT administrator</i> |
| 3-3 | <i>Review project phase</i> | Tanda tangan <i>project phase sign-off</i> | <i>Project Phase sign off</i> | <i>ERP project manager, client project manager, SAP consultants</i> |

(Sumber: PT XYZ)

3.3.2. Standar Kerja dan Operasi pada Tahapan *Blueprint***Tabel 3.4** Standar Kerja dan Operasi pada Tahapan *Business Blueprint*

| | PEKERJAAN | INGIN DICAPAI | | SUMBER DAYA |
|----------|--|---|--|---|
| 1 | General project management | | | |
| 1-1 | <i>Review project plan</i> | <ul style="list-style-type: none"> - <i>Review minutes meeting dari kick off meeting</i> - <i>Update project plan berdasarkan hasil dari kick off meeting</i> | <ul style="list-style-type: none"> • <i>Minute meeting project plan (update)</i> | <i>ERP project manager, client project manager</i> |
| 1-2 | <i>Schedule business requirement gathering workshops</i> | <ul style="list-style-type: none"> - <i>Penentuan jadwal business requirements gathering workshops</i> | <ul style="list-style-type: none"> • <i>Meeting schedule</i> • <i>Meeting agenda</i> | <i>ERP project manager, client project manager</i> |
| 2 | Business requirements gathering | | | |
| 2-1 | <i>Persiapan project kick-off</i> | <ul style="list-style-type: none"> - <i>Kebutuhan bisnis didefinisikan secara detail pada area sales, purchasing, inventory management, production dan MRP, service management, banking, reporting, and chart of accounts, business partner dan item master data</i> | <i>Minute Meeting</i> | <i>ERP consultant, client functional leads, client IT administrator</i> |

Tabel 3.4 Standar Kerja dan Operasi pada Tahapan *Business Blueprint* (lanjutan)

| # | DESKRIPSI PEKERJAAN | HASIL YANG DIPERCAPAI | OUTPUT | ALOKASI SUMBER |
|-----|--|--|---------------------------|---|
| | | <ul style="list-style-type: none"> - Menentukan kebutuhan • <i>Authorizations</i> dan <i>data ownership</i> • <i>Data migration</i> • <i>Interfaces</i> dan <i>integration points</i> • <i>Sistem performance</i> | | |
| 2-2 | Membuat <i>business Blueprint</i> | <ul style="list-style-type: none"> - Semua data yang dibutuhkan (<i>requirements, solutions, limitations</i> dan <i>gaps</i>) didokumentasikan pada <i>business blueprint document</i> - Konfirmasi tanggal dan agenda untuk melakukan <i>kick-off</i> | <i>Business Blueprint</i> | <i>ERP consultant</i> |
| 3 | Review blueprint | | | |
| 3-1 | Review dan diskusi <i>Business Blueprint</i> | <ul style="list-style-type: none"> - Menentukan <i>Feasibility of business</i> dan <i>technical requirements</i>. - Limitasi dan <i>gaps</i> ditentukan dan solusi yang diberikan disepakati. | <i>Minute Meeting</i> | <i>ERP consultants, ERP Project manager, client project manager</i> |

Tabel 3.4 Standar Kerja dan Operasi pada Tahapan *Business Blueprint* (lanjutan)

| # | DESKRIPSI PEKERJAAN | HASIL YANG INGIN DICAPAI | OUTPUT | ALOKASI SUMBER |
|-----|---------------------------------|---|-------------------------------|---|
| 3-2 | Melakukan review rencana proyek | <i>Project plan up-to-date</i> sesuai dengan <i>Business Blueprint review</i> | | <i>ERP project manager, client project manager</i> |
| 4 | <i>Review Project Phase</i> | <i>Obtain signed project phase sign-off</i> | <i>Project Phase Sign-off</i> | <i>ERP project manager, client project manager, ERP consultants</i> |

(Sumber: PT XYZ)

3.3.3. Standar Kerja dan Operasi pada Tahapan *Realization*Tabel 3.5 Standar Kerja dan Operasi pada Tahapan *Realization*

| # | DESKRIPSI PEKERJAAN | HASIL YANG INGIN DICAPAI | OUTPUT | ALOKASI SUMBER DAYA |
|-----|--|---|---|---|
| 1 | <i>General project management</i> | | | |
| 1-1 | Merencanakan <i>organizational change management</i> | <ul style="list-style-type: none"> - <i>User roles</i> didefinisikan dan disesuaikan <i>business processes</i> - <i>Communication strategy</i> untuk <i>end user</i> ditentukan | <ul style="list-style-type: none"> • <i>Change Management Plan</i> • <i>Change Management Guide</i> | <i>ERP project manager, client project manager, ERP consultants</i> |
| 1-2 | Merencanakan <i>end-user training</i> dan <i>adminstrator training</i> | Penentuan <i>training strategy</i> , membuat <i>preliminary training schedule</i> dan pembuatan <i>training material</i> | <i>Training plan</i> | <i>ERP project manager, client project manager, ERP consultants</i> |

Tabel 3.5 Standar Kerja dan Operasi pada Tahapan *Realization* (lanjutan)

| # | DESKRIPSI PEKERJAAN | HASIL YANG DIDINDAGAT | OUTPUT | ALOKASI SUMBER |
|-----|--|---|---|---|
| 1-3 | Mempersiapkan <i>data migration</i> | Relevant item, BP, dan saldo awal data dari sistem terdahulu dan memakai <i>template</i> yang telah ditentukan. | <ul style="list-style-type: none"> • <i>Master Data</i> • <i>Opening Balance Data</i> | <i>ERP consultants, client IT administrator</i> |
| 2 | <i>Production system set-up</i> | | | |
| 2-1 | Install SAP <i>production sytem</i> | SAP dengan <i>database</i> pada <i>client hardware</i> untuk <i>production use</i> | | <i>ERP consultants, client IT administrator</i> |
| 2-4 | Melakukan migrasi <i>data</i> | <i>All relevant item, business partner, dan accounting data</i> diinput ke dalam SAP | <i>Master data verification</i> | <i>ERP consultants, client IT administrator</i> |
| 2-5 | Konfigurasi <i>interface</i> | <i>Standard interfaces to print, fax, email, etc dan functional</i> jika ada. | | <i>ERP consultants, client IT administrator</i> |
| 3 | <i>Organizational Change Management</i> | | | |
| 3-1 | Melakukan <i>change management communication</i> (if <i>applicable</i>) | <i>Roles, tasks dan training schedule</i> sudah dikomunikasikan pada <i>end users</i> | <i>change management guide</i> | <i>ERP project manager, client project manager, client functional leads</i> |

Tabel 3.5 Standar Kerja dan Operasi pada Tahapan *Realization* (lanjutan)

| # | DESKRIPSI PEKERJAAN | HASIL YANG INGIN DICAPAI | OUTPUT | ALOKASI SUMBER |
|-----|--|---|---|---|
| | | <ul style="list-style-type: none"> Vendor dan <i>customer</i> sudah diinformasikan mengenai <i>schedule</i> dan perubahan-perubahan yang akan datang | | |
| 4 | Sistem validation/ acceptance testing | | | |
| 4-1 | <i>Maintain business process master list</i> | <ul style="list-style-type: none"> Membuat daftar semua proses bisnis inti yang relevan dengan implementasi SAP | <ul style="list-style-type: none"> • <i>Business Process</i> • <i>Master List</i> | <i>ERP consultants, client functional leads</i> |
| 4-2 | Melakukan <i>business process</i> dan data <i>validation testing workshops</i> | <ul style="list-style-type: none"> Semua proses pada <i>business process master list</i> sudah direview. Data yang diimport via <i>data migration</i> sudah diverifikasi Perubahan pada <i>set up</i> atau <i>scope</i> sudah didokumentasikan | <i>Test Case Scenario</i> | <i>ERP consultants, client functional leads</i> |
| 5 | Sistem Testing | | | |
| 5-1 | Menentukan <i>test cases</i> dan <i>scope</i> | <ul style="list-style-type: none"> Pembuatan <i>test plan</i> dan kasus-kasus bisnis proses | <i>Test plan & test strategy</i> | <i>ERP consultants, client functional leads</i> |

Tabel 3.5 Standar Kerja dan Operasi pada Tahapan *Realization* (lanjutan)

| # | DESKRIPSI PEKERJAAN | HASIL YANG DIDIPERHATIKAN | OUTPUT | ALOKASI SUMBER |
|-----|--|--|---|--|
| 5-2 | Menyiapkan <i>test environment</i> | – <i>Copy production SAP database</i> dan dibuat pada <i>SAP test sistem</i> | | <i>ERP consultants, client IT administrator</i> |
| 5-3 | Eksekusi <i>test plan</i> | – Semua <i>test case</i> sukses dilakukan pada <i>testing environment</i> | <ul style="list-style-type: none"> • <i>Change request</i> • <i>Issue log</i> | <i>ERP consultants, client functional lead</i> |
| 5-4 | <i>Review test results</i> dan perubahan-perubahan yang diperlukan | – <i>Test results</i> dan perubahan-perubahan yang diperlukan sudah direview – <i>Project plan is updated</i> | <i>Issue Log</i> | <i>ERP project manager, client project manager, ERP consultants</i> |
| 6 | <i>Cut over and Support Planning</i> | | | |
| 6-1 | Menentukan <i>cut-over plan</i> | – <i>Cut-over plan</i> ditentukan | <i>Cut over strategy</i> | <i>ERP project manger, client project manager, client functional leads, client IT administrator, ERP consultants</i> |
| 6-2 | Perencanaan <i>support strategy</i> | – Semua prosedur yang mendukung sudah ditentukan | | <i>ERP project manger, client project manager, client functional leads, client IT administrator, ERP consultants</i> |

Tabel 3.5 Standar Kerja dan Operasi pada Tahapan *Realization* (lanjutan)

| # | DESKRIPSI PEKERJAAN | HASIL YANG INGIN DICAPAI | OUTPUT | ALOKASI SUMBER DAYA |
|-----|---------------------------------|--|--------------------------|--|
| 6-3 | Perencanaan sistem administrasi | Sistem administrator, beserta <i>tasks</i> dan tanggungjawabnya ditentukan | | <i>ERP project manger, client project manager, client functional leads, client IT administrator, ERP consultants</i> |
| 7 | <i>Review Project Phase</i> | Mendapatkan tandatangan <i>project phase sign-off</i> | <i>Acceptance Letter</i> | <i>ERP project manger, client project manager, client IT administrator, ERP consultants</i> |

(Sumber: PT XYZ)

3.3.4. Standar Kerja dan Operasi pada Tahapan *Final Preparation*Tabel 3.6 Standar Kerja dan Operasi pada Tahapan *Final Preparation*

| # | DESKRIPSI PEKERJAAN | HASIL YANG INGIN DICAPAI | OUTPUT | ALOKASI SUMBER DAYA |
|-----|-----------------------------------|--|----------------------|--|
| 1 | <i>General project management</i> | | | |
| 1-1 | Konfirmasi <i>training plan</i> | <i>Training plan schedule</i> di konfirmasi dan dikomunikasikan kepada <i>user</i> | <i>Training plan</i> | <i>ERP project manager, client project manager, ERP consultants, client IT administrator</i> |

Tabel 3.6 Standar Kerja dan Operasi pada Tahapan *Final Preparation* (lanjutan)

| # | DESKRIPSI PEKERJAAN | HASIL YANG INGIN DICAPAI | OUTPUT | ALOKASI SUMBER |
|----------|--|---|---|--|
| 1-2 | Finalisasi <i>cut-over</i> <i>plans</i> | <i>Cut-over plan</i> difinalisasi dan dikomunikasikan kepada <i>end users</i> | <ul style="list-style-type: none"> • <i>Cut over</i> <i>strategy</i> • <i>Cut over</i> <i>checklist</i> | <i>ERP project</i> <i>manager, client</i> <i>project manager,</i> <i>ERP consultants,</i> <i>client IT</i> <i>administrator</i> |
| 2 | <i>Training</i> | | | |
| 2-1 | <i>Key user training</i> | <i>Key users</i> sudah di <i>training</i> | <ul style="list-style-type: none"> – <i>Training plan</i> – <i>User manual</i> | <i>ERP consultants,</i> <i>IT administrator,</i> <i>client functional</i> <i>leads, client end</i> <i>users</i> |
| 2-2 | <i>Administrator</i> <i>training</i> | Administrator telah di <i>training</i> | <ul style="list-style-type: none"> – <i>Trainig plan</i> – <i>User manual</i> | <i>ERP consultants,</i> <i>client IT</i> <i>administrator</i> |
| 3 | <i>Sistem readiness</i> | | | |
| 3-1 | Menyelesaikan sistem administrasi | <ul style="list-style-type: none"> – Semua administrasi <i>setting</i> dan konfigurasi sudah lengkap – <i>SAP client</i> <i>installations</i> sudah lengkap | | <i>ERP consultants,</i> <i>client IT</i> <i>administrator</i> |
| 3-2 | Melakukan <i>Go-live</i> <i>check</i> | <i>Go-live checklist</i> <i>completed</i> | <i>Go live</i> <i>checklist</i> | <i>ERP consultants,</i> <i>client IT</i> <i>administrator,</i> <i>client project</i> <i>manager</i> |

Tabel 3.6 Standar Kerja dan Operasi pada Tahapan *Final Preparation* (lanjutan)

| # | DESKRIPSI KEGIATAN | HASIL YANG DINGINDICAPAI | OUTPUT | ALOKASI SUMBER |
|-----|---|--|----------------------------|--|
| 4 | <i>Cut-over</i> | | | |
| 4-1 | Finalisasi <i>legacy</i> sistem <i>processing</i> | <ul style="list-style-type: none"> - <i>Final legacy transaction</i> dan <i>master data maintenance</i> sudah dilengkapi sebelum hari dilakukannya <i>cut-over</i> - Perubahan yang signifikan sejak migrasi data terakhir dijalankan sudah didokumentasikan import ke dalam SAP | <i>Cut Over strategy</i> | <i>ERP consultants, client project manager, client functional leads</i> |
| 4-2 | Melakukan <i>cut-over</i> | <ul style="list-style-type: none"> - Saldo awal data telah di <i>upload</i> - <i>Pilot processes</i> dapat berhasil SAP sesuai dengan <i>cut-over checklist</i> - User manuals sudah dibuat (jika diperlukan) | <i>Cut over check list</i> | <i>ERP consultants, client project manager, client functional leads, client IT administrator</i> |
| 5 | <i>Review Project Phase</i> | Tanda tangan <i>project phase sign-off</i> | <i>Acceptance letter</i> | <i>ERP project manager, client project manager, ERP consultants</i> |

(Sumber: PT XYZ)

3.3.5. Standar Kerja dan Operasi pada Tahapan *Go Live and Support***Tabel 3.7** Standar Kerja dan Operasi pada Tahapan *Go live and Support*

| | PEKERJAAN | INGINDIAPAI | | SUMBER DATA |
|-----|---|--|------------------------------|--|
| 1 | <i>General project management</i> | | | |
| 1-1 | Menyediakan <i>on-site support</i> selama masa permulaan <i>go-live</i> | SAP consultant berada secara <i>on-site</i> agar dapat cepat melakukan respon secara cepat terhadap isu-isu yang mungkin muncul | • <i>Issue Log</i> | <i>ERP consultants, ERP project manager, client IT administrator</i> |
| 1-2 | Menyelesaikan proses bisnis yang kritis atau <i>technical issues</i> yang belum selesai | Semua <i>issue</i> yang kritikal sudah selesai | • <i>Issue Log</i> | <i>Client IT administrator, client functional leads, ERP consultants</i> |
| 1-3 | <i>Hand over support</i> dan administrasi sistem | Client tim mendapatkan <i>support go live</i> dan serah terima sistem <i>adminsitration</i> <i>Go-live checklist</i> pada partnerEdge Portal sudah dilakukan untuk mengaktifasikan support | <i>Project Documentation</i> | <i>Client IT administrator, client project manager, ERP consultants.</i> |

Tabel 3.7 Standar Kerja dan Operasi pada Tahapan *Go live and Support* (lanjutan)

| # | DESKRIPSI | HASIL YANG DITUNJUKKAN | OUTPUT | ALOKASI SUMBER |
|----------|---|--|---|---|
| 2 | <i>Project closing</i> | | | |
| 2-1 | Melakukan <i>project closing meeting</i> | <ul style="list-style-type: none"> - <i>Project plan</i> direview kembali - Semua <i>milestones</i> sudah berhasil dilakukan - <i>Review and optimization conference</i> sudah dijadwalkan - Customer sudah menandatangani <i>final project acceptance</i> | <ul style="list-style-type: none"> - <i>Minutes meeting</i> - <i>Post go live</i> - <i>Questionnaire</i> | <i>Project team</i> |
| 3 | <i>Continuous improvement</i> | | | |
| 3-1 | Memonitor sistem | <ul style="list-style-type: none"> - Semua isu-isu sudah didokumentasikan - Proses peningkatan untuk <i>performance, functionality, usability</i>, dll sudah didokumentasikan | | <i>Client IT administrator, client project manager, client functional leads</i> |
| 3-2 | Melakukan “ <i>review dan optimization conference</i> ” | <ul style="list-style-type: none"> - <i>Review and optimization conference</i> sudah dilakukan - <i>Post go live checklist</i> sudah dilengkapi | | <i>Project team</i> |

(Sumber: PT XYZ)

3.3.6. Activity Duration Estimating

Berikut merupakan hasil pengolahan data yang ditampilkan secara keseluruhan dari setiap fase.

Tabel 3.8 Durasi per Aktivitas di setiap Fase

| Project Preparation | | | |
|----------------------------|------------------------------------|--|--------|
| 1 | Proyek dimulai | 0 hari | |
| 2 | <i>Project Preparation Meeting</i> | <i>Develop project policies, standards and methodology</i> | 5 hari |
| | | <i>Set up Infrastructures and project room</i> | 7 hari |
| | | <i>Finalize project structures</i> | 2 hari |
| | | | |
| 3 | <i>Project Kick Off Meeting</i> | <i>ERP overview</i> | 1 hari |
| | | <i>Project methodology and schedule</i> | 3 hari |
| | | | |
| Blueprint | | | |
| | Melakukan diskusi | | |
| 1 | | Struktur organisasi | 1 hari |
| 2 | | <i>Hardware and system landscape</i> | 2 hari |
| 3 | | <i>General Parameter</i> | |
| | | • <i>Currency</i> | 1 hari |
| | | • <i>Data format</i> | 1 hari |
| | | • <i>Unit of measure</i> | 3 hari |
| | | • <i>Valuation method</i> | 1 hari |
| | | • <i>Payment term</i> | 1 hari |
| | | • <i>Payment method</i> | 1 hari |
| 4 | | <i>Chart of account</i> | 1 hari |
| 5 | | <i>Warehouse</i> | 1 hari |
| 6 | | <i>Customer group & customer</i> | 1 hari |
| 7 | | <i>Vendor group & vendor</i> | 1 hari |
| 8 | | <i>Asset class & fixed asset</i> | 1 hari |
| 9 | | <i>Bank master data</i> | 1 hari |
| 10 | | <i>GL Budgeting</i> | 1 hari |
| 11 | | <i>Item Group & Item</i> | 1 hari |
| 12 | | <i>Barcode Processing</i> | 1 hari |
| 13 | | <i>Purchasing Process</i> | |
| | | • <i>Purchase order & return</i> | 1 hari |
| | | • <i>Good receipt & return</i> | 1 hari |
| | | • <i>Approval strategy</i> | 1 hari |

Tabel 3.8 Durasi per Aktivitas di setiap Fase (lanjutan)

| | | | |
|----|---|---|---------|
| 14 | | <i>Sales process</i> | |
| 15 | | • <i>Sales contract</i> | 1 hari |
| 16 | | • <i>Sales order & return</i> | 1 hari |
| 17 | | • <i>Delivery order & return</i> | 1 hari |
| 18 | | <i>Inventory process</i> | |
| | | • <i>Stock transfer request</i> | 1 hari |
| | | • <i>Stock Transfer Order</i> | 1 hari |
| | | • <i>Stock receipt for STO</i> | 1 hari |
| | | • <i>Good insue & Good receipt</i> | 1 hari |
| | | • <i>Cycle Count</i> | 1 hari |
| 19 | | <i>Customer Service Process</i> | |
| | | • <i>Service - Request service</i> | 1 hari |
| | | • <i>Work order process</i> | 1 hari |
| 20 | | <i>Finance & Accounting Process</i> | |
| | | • <i>Invoicing AP</i> | 1 hari |
| | | • <i>Invoicing AR</i> | 1 hari |
| | | • <i>Outgoing payment</i> | 1 hari |
| | | • <i>Incoming payement</i> | 1 hari |
| | | • <i>Bank reconciliation</i> | 1 hari |
| 21 | | <i>Interface add on</i> | 2 hari |
| 22 | | <i>Form and Report layout</i> | 2 hari |
| | | <i>Realization</i> | |
| 1 | <i>Data preparation</i> | | |
| | | <i>COA</i> | 3 hari |
| | | <i>Vendor Group & Vendor</i> | 3 hari |
| | | <i>Customer group & Customer</i> | 3 hari |
| | | <i>Item group & Item</i> | 3 hari |
| | | <i>Asset class & fixed asset</i> | 3 hari |
| | | <i>Other master data (Bank, etc)</i> | 2 hari |
| 2 | <i>Configuration</i> | | 14 hari |
| 3 | <i>Develop interface</i> | | 14 hari |
| 4 | <i>Testing scenario</i> | | 7 hari |
| 5 | <i>Unit test & integration test</i> | | 10 hari |
| 6 | <i>Develop report</i> | | 4 hari |
| 7 | <i>Develop user manual</i> | | 7 hari |
| | | <i>Final preparation</i> | |
| 1 | <i>Master data upload test</i> | | 13 hari |
| 2 | <i>Final integration test</i> | | 24 hari |
| 3 | <i>End user training</i> | | 24 hari |
| 4 | <i>Master Data Final Upload</i> | | 7 hari |
| 5 | <i>Cut over simulation</i> | | 7 hari |

Tabel 3.8 Durasi per Aktivitas di setiap Fase (lanjutan)

| | | | |
|---|-----------------|---|---------|
| 1 | Balance upload | | |
| | | <i>Balance item & fixed asset</i> | |
| | | • <i>Balance AP</i> | 2 hari |
| | | • <i>Balance AR</i> | 2 hari |
| | | • <i>Balance GL</i> | 2 hari |
| | | <i>Confirm balance item & fixed asset</i> | |
| | | • <i>Balance AP</i> | 2 hari |
| | | • <i>Balance AR</i> | 2 hari |
| | | • <i>Balance GL</i> | 2 hari |
| 2 | Support Go Live | | 22 hari |
| 3 | Sistem Go Live | | 0 hari |

(Sumber: Manajer Proyek)

3.3.7. Schedule Development

a. Schedule model data

Untuk lebih mempermudah penentuan lintasan kritis maka dilakukanlah penggabungan kegiatan.

Tabel 3.9 Data *Critical Path Method*

| No | KODE AKTIVITAS | NAMA AKTIVITAS | DURASI | AKTIVITAS PENDAHULUAN |
|----|----------------|---|--------|-----------------------|
| | | Project Preparation | | |
| 1 | A | Proyek dimulai | 0 | - |
| 2 | B | Project Preparation Meeting | 14 | A |
| 3 | C | Project Kick Off Meeting | 4 | B |
| | | Blueprint | | |
| 4 | D | Diskusi tentang Struktur Organisasi | 0 | C |
| 5 | E | Diskusi tentang Hardware & System Landscape | 2 | C |
| 6 | F | Diskusi tentang General Parameter | 8 | D |
| 7 | G | Diskusi tentang Chart of Account | 1 | F |
| 8 | H | Diskusi tentang Warehouse | 1 | F |
| 9 | I | Diskusi tentang Customer Group & Customer | 1 | M |
| 10 | J | Diskusi tentang Vendor Group & Vendor | 1 | I |
| 11 | K | Diskusi tentang Asset Class & Fixed Asset | 1 | H |
| 12 | L | Diskusi tentang Bank Master Data | 1 | J,O |
| 13 | M | Diskusi tentang GL Budgeting | 1 | G |
| 14 | N | Diskusi tentang Item Group & Item | 1 | K |
| 15 | O | Diskusi tentang Barcode Processing | 1 | N |
| 16 | P | Diskusi tentang Purchasing Process | 3 | E,O |
| 17 | Q | Diskusi tentang Sales Process | 3 | P |
| 18 | R | Diskusi tentang Inventory Process | 5 | Q |

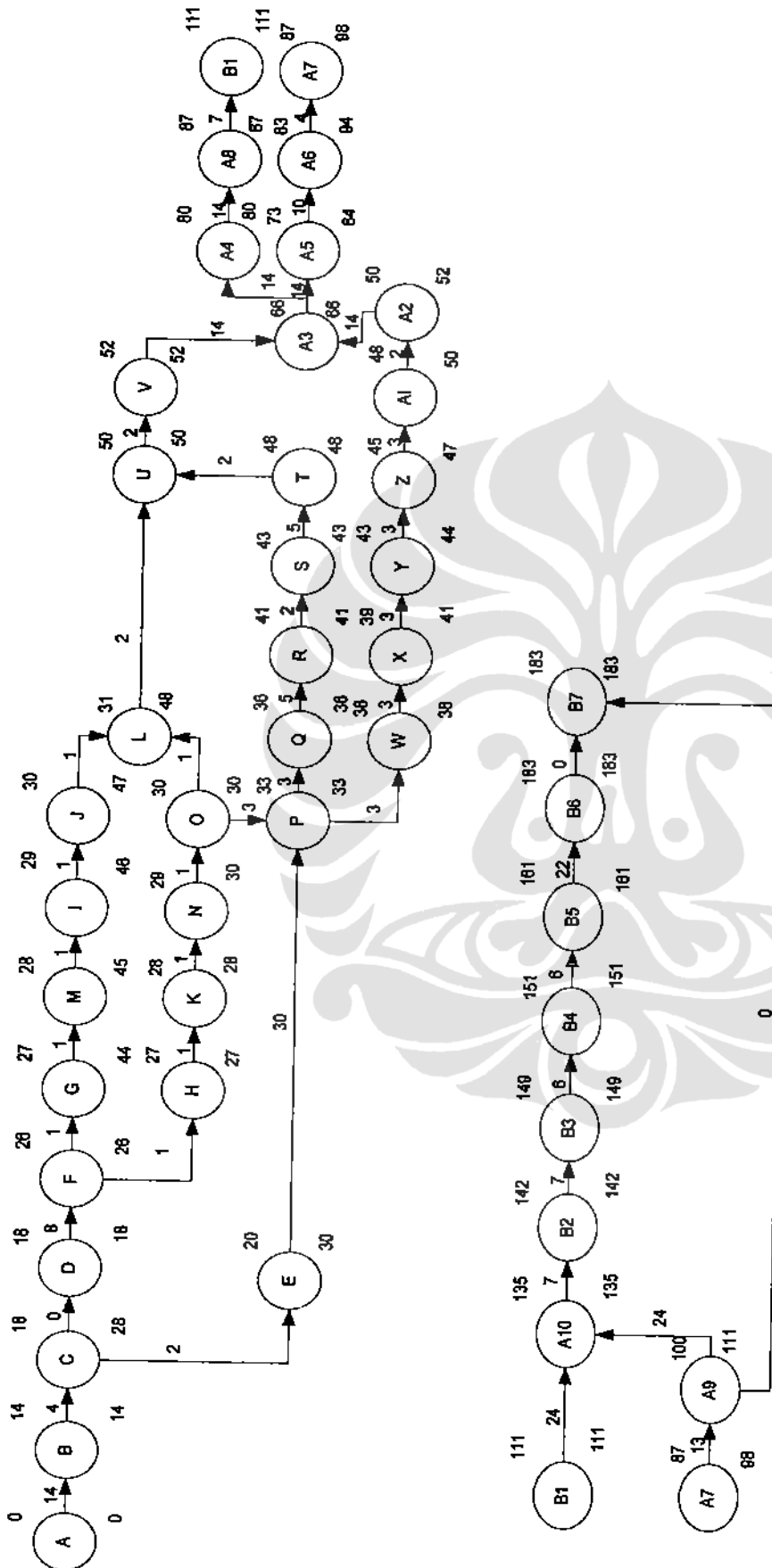
Tabel 3.9 Data *Critical Path Method* (lanjutan)

| No | KODE AKTIVITAS | NAMA AKTIVITAS | DURASI | AKTIVITAS PENDAHULUAN |
|----|----------------|---|--------|-----------------------|
| 19 | S | Diskusi tentang Customer Service Process | 2 | R |
| 20 | T | Diskusi tentang Finance & Accounting Process | 5 | S |
| 21 | U | Diskusi tentang Interface with Add On | 2 | L,T |
| 22 | V | Diskusi tentang Form and Report Layout | 2 | U |
| | | Realization | | |
| 23 | W | Mempersiapkan data COA (computer organization architecture) | 3 | P |
| 24 | X | Mempersiapkan data Vendor Group & Vendor | 3 | W |
| 25 | Y | Mempersiapkan data Customer Group & Customer | 3 | X |
| 26 | Z | Mempersiapkan data Item Group & Item | 3 | Y |
| 27 | A1 | Mempersiapkan data Asset Class & Fixed Asset | 3 | Z |
| 28 | A2 | Mempersiapkan data Other Master Data (Bank, etc) | 2 | A1 |
| 29 | A3 | Melakukan Configuration | 14 | A2,V |
| 30 | A4 | Develop Interface | 14 | A3 |
| 31 | A5 | Testing Scenario | 7 | A3 |
| 32 | A6 | Unit Test & Integration Test | 10 | A5 |
| 33 | A7 | Develop Report | 4 | A6 |
| 34 | A8 | Develop User Manual | 7 | A4 |
| | | Final Preparation | | |
| 35 | A9 | Master Data Upload test | 13 | A7 |
| 36 | A10 | Final Integration Test | 24 | A9,B1 |
| 37 | B1 | End User Training | 24 | A8 |
| 38 | B2 | Master Data Final Upload | 7 | A10 |
| 39 | B3 | Cut Over Simulation | 7 | B2 |
| | | Go Live & Support | | |
| 40 | B4 | Balance Item & Fixed Asset | 6 | B3 |
| 41 | B5 | Confirm Balance item & Fixed Asset | 6 | B4 |
| 42 | B7 | Support Go Live | 22 | B5 |
| 43 | B8 | Sistem Go Live | 0 | B7 |

(Sumber: Manajer Proyek)

b. *Project schedule*

Project schedule merupakan penggambaran dari jaringan proyek implementasi sistem ERP. Untuk *project schedule* dibuat di dalam *Microsoft Project*.



Gambar 3.8 Critical Path Method Metodologi ASAP (Sumber: Penulis)

Tabel 3.10 Identifikasi Jalur Kritis dan Slack Metodologi ASAP

| No | KODE AKTIVITAS | NAMA AKTIVITAS | DURASI | AKTIVITAS PENDAHULUAN | JENIS KETERKAITAN | EST | EFT | LST | LFT | Slack |
|----|----------------|--|--------|-----------------------|-------------------|-----|-----|-----|-----|-------|
| | | Project Preparation | | | | | | | | |
| 1 | A | Proyek dimulai | 0 | - | - | 0 | 0 | 0 | 0 | 0 |
| 2 | B | Project Preparation Meeting | 14 | A | IFS | 0 | 14 | 0 | 14 | 0 |
| 3 | C | Project Kick Off Meeting | 4 | B | 2FS | 14 | 18 | 14 | 18 | 0 |
| | | Blueprint | | | | | | | | |
| 4 | D | Mendiskusikan Struktur Organisasi | 0 | C | 3FS | 18 | 18 | 18 | 18 | 0 |
| 5 | E | Mendiskusikan Hardware & System Landscape | 2 | C | 3FS | 18 | 20 | 28 | 30 | 10 |
| 6 | F | Mendiskusikan General Parameter | 8 | D | 4FS | 18 | 26 | 18 | 26 | 0 |
| 7 | G | Mendiskusikan Chart of Account | 1 | F | 6FS | 26 | 27 | 43 | 44 | 17 |
| 8 | H | Mendiskusikan Warehouse | 1 | F | 6FS | 26 | 27 | 26 | 27 | 0 |
| 9 | I | Mendiskusikan Customer Group & Customer | 1 | M | 16FS | 28 | 29 | 45 | 46 | 17 |
| 10 | J | Mendiskusikan Vendor Group & Vendor | 1 | I | 9FS | 29 | 30 | 46 | 47 | 17 |
| 11 | K | Mendiskusikan Asset Class & Fixed Asset | 1 | H | 8FS | 27 | 28 | 27 | 28 | 0 |
| 12 | L | Mendiskusikan Bank Master Data | 1 | J,O | 10FS,15FS | 30 | 31 | 47 | 48 | 17 |
| 13 | M | Mendiskusikan GL Budgeting | 1 | G | 7FS | 27 | 28 | 44 | 45 | 17 |
| 14 | N | Mendiskusikan Item Group & Item | 1 | K | 11FS | 28 | 29 | 28 | 29 | 0 |
| 15 | O | Mendiskusikan Barcode Processing | 1 | N | 14FS | 29 | 30 | 29 | 30 | 0 |
| 16 | P | Mendiskusikan Purchasing Process | 3 | E,O | 5FS,15FS | 30 | 33 | 30 | 33 | 0 |
| 17 | Q | Mendiskusikan Sales Process | 3 | P | 16FS | 33 | 36 | 33 | 36 | 0 |
| 18 | R | Mendiskusikan Inventory Process | 5 | Q | 17FS | 36 | 41 | 36 | 41 | 0 |
| 19 | S | Mendiskusikan Customer Service Process | 2 | R | 18FS | 41 | 43 | 41 | 43 | 0 |
| 20 | T | Mendiskusikan Finance & Accounting Process | 5 | S | 19FS | 43 | 48 | 43 | 48 | 0 |
| 21 | U | Mendiskusikan Interface with Add On | 2 | L,T | 12FS,20FS | 48 | 50 | 48 | 50 | 0 |
| 22 | V | Mendiskusikan Form and Report Layout Realization | 2 | U | 21FS | 50 | 52 | 50 | 52 | 0 |

Tabel 3.10 Identifikasi Jalur Kritis dan Slack Metodologi ASAP (lanjutan)

| No | KODE AKTIVITAS | NAMA AKTIVITAS | DURASI | AKTIVITAS PENDAHULUAN | JENIS KETERKAITAN | EST | EFT | LST | LFT | Slack |
|----|----------------|--|--------|-----------------------|-------------------|-----|-----|-----|-----|-------|
| 23 | W | Memperiapkan data COA (computer organization architecture) | 3 | P | 17FS | 33 | 36 | 35 | 38 | 2 |
| 24 | X | Memperiapkan data Vendor Group & Vendor | 3 | W | 23FS | 36 | 39 | 38 | 41 | 2 |
| 25 | Y | Memperiapkan data customer group & customer | 3 | X | 24FS | 39 | 42 | 41 | 44 | 2 |
| 26 | Z | Memperiapkan data item group & item | 3 | Y | 25FS | 42 | 45 | 44 | 47 | 2 |
| 27 | A1 | Memperiapkan data asset class & fixed asset | 3 | Z | 26FS | 45 | 48 | 47 | 50 | 2 |
| 28 | A2 | Memperiapkan other master data | 2 | A1 | 27FS | 48 | 50 | 50 | 52 | 2 |
| 29 | A3 | Configuration | 14 | A2,V | 28FS,23FS | 52 | 66 | 52 | 66 | 0 |
| 30 | A4 | Develop interface | 14 | A3 | 29FS | 66 | 80 | 66 | 80 | 0 |
| 31 | A5 | Memperiapkan Testing Scenario | 7 | A3 | 29FS | 66 | 73 | 77 | 84 | 11 |
| 32 | A6 | Memperiapkan Unit Test & Integration Test | 10 | A5 | 31FS | 73 | 83 | 84 | 94 | 11 |
| 33 | A7 | Memperiapkan Develop Report | 4 | A6 | 32FS | 83 | 87 | 94 | 98 | 11 |
| 34 | A8 | Memperiapkan Develop User Manual | 7 | A4 | 33FS | 80 | 87 | 80 | 87 | 0 |
| | | Final Preparation | | | | | | | | |
| 35 | A9 | Master Data Upload test | 13 | A7 | 33FS | 87 | 100 | 98 | 111 | 11 |
| 36 | A10 | Final Integration Test | 24 | A9,B1 | 35FS,37FS | 111 | 135 | 111 | 135 | 0 |
| 37 | B1 | End User Training | 24 | A8 | 34FS | 87 | 111 | 87 | 111 | 0 |
| 38 | B2 | Master Data Final Upload | 7 | A10 | 36FS | 135 | 142 | 135 | 142 | 0 |
| 39 | B3 | Cut Over Simulation | 7 | B2 | 38FS | 142 | 149 | 142 | 149 | 0 |
| | | Go Live & Support | | | | | | | | |
| 40 | B4 | Balance Item & Fixed Asset | 6 | B3 | 39FS | 149 | 155 | 149 | 155 | 0 |
| 41 | B5 | Confirm Balance Item & Fixed Asset | 6 | B4 | 40FS | 155 | 161 | 155 | 161 | 0 |
| 42 | B6 | Support Go Live | 22 | B5 | 41FS | 161 | 183 | 161 | 183 | 0 |
| 43 | B7 | Sistem Go Live | 0 | B6,B1 | 42FS,37FS | 183 | 183 | 183 | 183 | 0 |

(Sumber: Penulis)

Lintasan kritis: A – B – C – D – F – H – K – N – O – P – Q – R – S – T – U – V –
A3 – A4 – A8 – B1 – A10 – B2 – B3 – B4 – B5 – B6 – B7

Dalam lintasan kritis terdapat beberapa *milestones*, yaitu:

- Proyek dimulai
- Struktur organisasi
- Sistem Go Live

Perlu diperhatikan bahwa setiap lintasan kritis yang ada pada proyek dipengaruhi oleh aktivitas-aktivitas lainnya yang tidak terdapat pada lintasan kritis. Pada kegiatan-kegiatan di luar jalur kritis ada dua kegiatan yang memiliki *slack* 2 hari. Tidak hanya aktivitas kritis saja yang perlu diperhatikan tetapi aktivitas yang memiliki *slack* yang kecil juga perlu diperhatikan. Hal ini dikarenakan apabila aktivitas yang memiliki *slack* kecil dalam pelaksanaannya mengalami keterlambatan dan melebihi batas *slack*, maka lintasan kritis pada proyek implementasi ERP juga akan berubah. Aktivitas yang memiliki *slack* 2 hari yaitu:

Tabel 3.11 Nama Aktivitas yang Memiliki *Slack* 2 hari

| No | Kode Aktivitas | Nama Aktivitas | EST | EFT | LST | LFT | Slack |
|----|----------------|--|-----|-----|-----|-----|-------|
| 1 | W | Mempersiapkan COA | 33 | 36 | 35 | 38 | 2 |
| 2 | X | Mempersiapkan vendor group & vendor | 36 | 39 | 38 | 41 | 2 |
| 3 | Y | Mempersiapkan customer group & customer | 39 | 42 | 41 | 44 | 2 |
| 4 | Z | Mempersiapkan item group & item | 42 | 45 | 44 | 47 | 2 |
| 5 | A1 | Mempersiapkan <i>asset class & fixed asset</i> | 45 | 48 | 47 | 59 | 2 |
| 6 | A2 | Mempersiapkan other master data | 48 | 50 | 50 | 52 | 2 |

3.4. Pengumpulan Data dalam Implementasi Sistem ERP dengan *Project Management Implementation ERP*

Dalam rangka membuat daftar dan definisi aktivitas implementasi sistem ERP dengan *Project Management Implementation ERP* diperlukan 4 fase, yaitu *planning and initiation, design, development* dan *implementation and end user training*. Untuk itu ada standar kegiatan yang harus dibuat agar menunjang keberhasilan proyek implementasi ini.

3.4.1. Standar Kerja dan Operasi pada Tahapan *Planning and Initiation*

Tabel 3.12 Standar Kerja dan Operasi pada Tahap *Planning and Initiation*

| | DESKRIPSI | HASIL YANG INGIN | OUTPUT | ABDOKASI |
|-----|------------------------------|---|---|--|
| 1 | <i>Project charter</i> | | | |
| 1-1 | <i>Organization plan</i> | <ul style="list-style-type: none"> - Mengidentifikasi tim inti proyek - Mengidentifikasi <i>steering committee</i> - Mengidentifikasi <i>executive sponsor</i> | <ul style="list-style-type: none"> • Struktur organisasi proyek • <i>Core team</i> • <i>vacation schedule</i> • <i>Resource matrix</i> | <i>ERP project manager, consultant, steering committee</i> |
| 1-2 | <i>Issue management plan</i> | <ul style="list-style-type: none"> - Mengidentifikasi risiko proyek - Memonitor proyek | <ul style="list-style-type: none"> • <i>Issue logs</i> • <i>Issue log users</i> | <i>Consultant and ERP project manager</i> |
| 1-3 | <i>Scope management plan</i> | Perencanaan proyek telah meliputi semua yang dibutuhkan perusahaan | <ul style="list-style-type: none"> • <i>List conversion requirements</i> • <i>List interface requirements</i> • <i>List reporting requirements</i> | <i>ERP project manager, and consultants</i> |

Tabel 3.12 Standar Kerja dan Operasi pada Tahapan *Planning and initiation* (lanjutan)

| NO | DESKRIPSI | HASIL YANG | OUTPUT | ALOKASI |
|-----|---|--|--|--|
| | | | | SARANA |
| 1-4 | <i>Procurement plan</i> | Konfirmasi kebutuhan <i>hardware, software</i> dan <i>system integrator</i> | <ul style="list-style-type: none"> • <i>List hardware requirements</i> • <i>List software requirements</i> • <i>List system integrator procurements</i> | <i>ERP project manager, and consultants, account manager</i> |
| 1-5 | <i>Communication plan</i> | Jadwal pertemuan rutin | <ul style="list-style-type: none"> • <i>Core team meeting schedule</i> • <i>Steering committee meeting schedule</i> • <i>Executive sponsorship meeting schedule</i> | <i>ERP project manager, client project manager</i> |
| 2 | <i>Training matrix and plan</i> | | | |
| 2-1 | <i>Identify core team training requirements</i> | <ul style="list-style-type: none"> – Daftar nama <i>core team</i> yang akan mendapat pelatihan – Kebutuhan untuk pelatihan | <ul style="list-style-type: none"> • <i>List core team requirement</i> • <i>Core team training schedule</i> • <i>Schedule end user training and facility</i> | <i>ERP project manager, consultant,</i> |
| 3 | <i>Current state assessment</i> | | | |

Tabel 3.12 Standar Kerja dan Operasi pada Tahapan *Planning and initiation* (lanjutan)

| | DESKRIPSI | HASIL YANG DIHARAPKAN | OUTPUT | ALOKASI SUMBUK DAYA |
|----------|--|---|--|---|
| 3-1 | <i>Project administration process</i> | - Dokumentasi yang berisikan laporan perjalanan proyek | <i>Monthly & daily processing cycle</i> | <i>ERP project manager, client project manager.</i> |
| 3-2 | <i>Define reporting requirements</i> | - <i>Current reporting requirements</i> - <i>Current interface requirements</i> | Laporan dalam bentuk email ataupun laporan berkala. | <i>ERP project manager, client project manager.</i> |
| 4 | <i>Change management strategy</i> | | | |
| 4-1 | Analisa manajemen perubahan | - Mengidentifikasi kelompok <i>user</i> yang akan terpengaruh oleh perubahan sistem secara langsung - Strategi mempersiapkan <i>user</i> menggunakan sistem baru | <i>Change network charter and kick off packet</i> <i>Change management assessment</i> | <i>ERP project manager, client project manager, SAP consultants</i> |
| 5 | <i>Project plan</i> | | | |
| 5-1 | Membuat perencanaan proyek secara detail | - Memperoleh detail aktivitas selama proyek - Memperoleh <i>milestones</i> selama proyek | <i>Roapmap Hardware installation schedule</i> <i>Software installation schedule</i> | <i>ERP project manager, consultant,</i> |

(Sumber: Penulis)

3.4.2. Standar Kerja dan Operasi pada Tahapan *Design*Tabel 3.13 Standar Kerja dan Operasi pada Tahap *Design*

| # | DESKRIPSI PEKERJAAN | HASIL YANG INGIN DICAPAI | OUTPUT | ALOKASI SUMBER DAYA |
|---|--|---|--|---|
| 1 | <i>Prepare for design workshop</i> | <i>Workshop</i> bagi <i>team member</i> dan <i>user</i> | <i>Workshop schedule</i> | <i>Consultan, project manager</i> dan <i>team project.</i> |
| 2 | <i>Conduct & document design workshop</i> | Detail sistem desain Detail sistem <i>interface</i> | <i>Develop design book</i> | <i>Consultant and ERP project manager</i> |
| 3 | <i>Build design document</i> | Dokumentasi segala perubahan yang telah terjadi | <i>Develop design book</i> | <i>ERP project manager</i> dan <i>project team</i> |
| 4 | <i>Complete interface matrix, reporting matrices, and conversion strategy</i> | <i>matrix interface</i> dari setiap perubahan selama tahap implementasi | <i>Report martix</i> | <i>Project team</i> dan <i>ERP project manager, Client IT administrator</i> |
| 5 | <i>Complete processing schedule, security matrices, and archiving requirements</i> | Dokumentasi yang berisikan persyaratan proses dalam pembuatan sistem | <i>Report matrix</i> | <i>Project team, consultant, dan ERP project manager, Client IT administrator</i> |
| 6 | <i>Prioritize and design system modifications</i> | Spesifikasi dari <i>software</i> dan <i>hardware</i> | <i>Design specification</i> | <i>Project team</i> dan <i>ERP project manager, Client IT administrator</i> |
| 7 | <i>Prepare for testing</i> | Rencana untuk <i>unit testing, integration testing, volume testing</i> dan <i>stress testing</i> | <i>Test plan</i> | <i>Project team, consultant, dan ERP project manager</i> |
| 8 | <i>Organization impact analysis</i> | Analisa detail dan mengidentifikasi perubahan serta pengaruh implementasi terhadap peran dan tanggung jawab <i>user</i> | <i>Organization network presentations</i> <i>Organization impact assessment tools</i> | <i>Project team, consultant, dan ERP project manager</i> |

(Sumber: Penulis)

3.4.3. Standar Kerja dan Operasi pada Tahapan *Development*Tabel 3.14 Standar Kerja dan Operasi pada Tahapan *Development*

| | PEKERJAAN | INDICATOR | | SUMBER DAYA |
|----------|-----------------------------------|--|--|---|
| 1 | General project management | | | |
| 1-1 | <i>Configuration application</i> | – Modul yang di instal mendukung proses bisnis perusahaan | <i>Configurate system</i> <i>Code legacy extracts</i> | <i>ERP project manager, client project manager, IT client administrator</i> |
| 1-2 | <i>Develop report</i> | – Laporan mengenai implementasi, desain, dan pengujian sistem | <i>Communication messages</i> | <i>ERP project manager, project team</i> |
| 1-3 | <i>Develop interface program</i> | – <i>Interface</i> yang sesuai mendukung proses bisnis | <i>Code legacy interface</i> | <i>ERP project manager, client project manager.</i> |
| 1-4 | <i>Change discussion guide</i> | – <i>Tools</i> yang dapat digunakan untuk mempersiapkan pelatihan bagi <i>user</i> dan menjelaskan perubahan proses kerja dan tanggung jawab | <i>Change discussion guide content and distribution</i> | <i>ERP project manager, client project manager, dan project team</i> |
| 1-5 | <i>Develop system security</i> | – Sistem keamanan yang dapat digunakan pada pengujian <i>database</i> . | <i>Security matrix</i> | <i>IT client administrator</i> |
| 2 | Testing | | | |

Tabel 3.14 Standar Kerja dan Operasi pada Tahapan *Development* (lanjutan)

| # | DESKRIPSI PEKERJAAN | HASIL YANG DIHARAPKAN | OUTPUT | ALOKASI SUMBER |
|----------|--|--|---|---|
| 2-1 | <i>System testing</i> | Data base di uji, hasil verifikasi dan perbedaan yang terjadi didokumentasikan | <i>System testing</i> dan <i>disaster recovery plan</i> | <i>IT client administrator</i> |
| 2-2 | <i>Integration testing</i> | Sistem yang telah terintegrasi | <i>Integration testing</i> | <i>IT client administrator, consultant</i> |
| 2-3 | <i>Conversion testing</i> | - Konversi data berhasil | <i>Conversion testing</i> | <i>IT client administrator, consultant</i> |
| 2-4 | <i>Training testing, delivery and evaluation</i> | - Materi yang sesuai dengan sistem yang digunakan | <i>Training material</i> <i>Training logistic plan and execution</i> | <i>ERP project manager, client project manager.</i> |
| 3 | <i>Communication plan</i> | | | |
| 3-1 | <i>Execute communication plan</i> | - <i>Coordination of the change network and development of communication tools</i> | <i>Change network presentation</i> | <i>Client project manager</i> |
| 2-2 | <i>Execute sponsorship plan</i> | Pertemuan antara <i>steering committee</i> dan <i>project manager</i> | <i>Communication message</i> | <i>ERP project manger dan steering committee</i> |
| 2-2 | <i>Volume test</i> | <i>Client</i> nyaman dengan sistem | <i>Volume testing</i> | <i>IT client administrator, consultant</i> |

(Sumber: Penulis)

3.4.4. Standar Kerja dan Operasi pada Tahapan *Implementation and End User Training*

Tabel 3.15 Standar Kerja dan Operasi pada Tahapan *Implementation and End User Training*

| # | DESKRIPSI PEKERJAAN | HASIL YANG INGIN DICAPAI | OUTPUT | ALOKASI SUMBER DAYA |
|---|---|--|--|--|
| 1 | <i>Training design/development</i> | – Memberi pelatihan bagi <i>user</i> bagaimana cara mengintegrasikan sistem yang baru | <i>Develop procedure</i> | <i>ERP project manager, client project manager</i> |
| 2 | <i>Training logistic</i> | – Jadwal pelatihan dan kebutuhan untuk pelatihan lainnya | <i>Training material</i> | <i>ERP project manager, project team, consultant</i> |
| 3 | <i>Rollout communication</i> | – Distribusi informasi | <i>Communication message</i> | <i>ERP project manager, client project manager.</i> |
| 4 | <i>Convert data</i> | – Data dimigrasi ke dalam sistem ERP yang telah ada | <i>Production system dan balance conversion data</i> | <i>ERP project manager, client project manager, dan project team, IT client administrator.</i> |
| 5 | <i>Go Live</i> | – Software ERP telah tersedia pada setiap PC <i>user</i> | Sistem <i>Go live</i> | <i>IT client adminstrator</i> |
| 6 | <i>Post implementation support and review</i> | – Semua isu-isu sudah didokumentasikan – Proses peningkatan untuk performa, <i>functionality</i> , dan <i>usability</i> | <i>Rollout communication and support</i> | <i>Project manager, project team dan consultant</i> |

Tabel 3.15 Standar Kerja dan Operasi pada Tahapan *Implementation and End User Training* (lanjutan)

| | | | | |
|---|--|---|-------------------------------|---------------------|
| 7 | <i>Determine review method, gather data and conduct review</i> | <ul style="list-style-type: none"> - <i>Review and optimization conference</i> sudah dilakukan - <i>Post go live checklist</i> sudah dilengkapi | <i>Post conversion review</i> | <i>Project team</i> |
|---|--|---|-------------------------------|---------------------|

(Sumber: Penulis)

3.4.5. Activity Duration Estimating

Berikut merupakan hasil pengolahan data yang ditampilkan secara keseluruhan dari setiap fase.

Tabel 3.16 Durasi per Aktivitas di Setiap Fase

| No | Aktivitas | Sub Aktivitas | Durasi |
|----|--------------------------------|--|--------|
| | Planning and Initiation | | |
| 1 | Project charter | | |
| 2 | Starting project | | 0 hari |
| 3 | | Organization plan | |
| 4 | | • Identification of core team | 3 hari |
| 5 | | • Identification of steering committee | 1 hari |
| 6 | | • Identification of executive sponsors | 1 hari |
| 7 | | • Core team vacation schedules | 4 hari |
| 8 | | • Resource matrix | 2 hari |
| 9 | | Issue management plan | |
| 10 | | • Development of issue log | 3 hari |
| 11 | | • Identify issue log users | 2 hari |
| 12 | | Scope management plan | |
| 13 | | • Conversion requirements | 2 hari |
| 14 | | • Interface requirements | 2 hari |
| 15 | | • Reporting requirements | 1 hari |
| 16 | | Risk management plan | 3 hari |
| 17 | | Procurement plan | |
| 18 | | • System integrator preparation | 2 hari |
| 19 | | • Hardware procurement | 4 hari |
| 20 | | • Software procurement | 3 hari |
| 21 | | • System integrator procurement | 3 hari |
| 22 | | Communication plan | |

Tabel 4.16 Durasi per Aktivitas di setiap Fase (lanjutan)

| No | Aktivitas | Sub Aktivitas | Durasi |
|----|---|--|---------|
| 23 | | • Core team meeting schedule | 1 hari |
| 24 | | • Steering committee meeting schedule | 1 hari |
| 25 | | • Executive sponsorship meeting schedule | 0 hari |
| 26 | Training matrix and plan | | |
| 27 | | Identify core team training requirements | 2 hari |
| 28 | | Core team training schedule | 3 hari |
| 29 | | Schedule end user training & facility | 3 hari |
| 30 | Current state assessment | | |
| 31 | | Monthly & daily processing cycles | 0 hari |
| 32 | | Current reporting requirements | 1 hari |
| 33 | | Current interface requirements | 1 hari |
| 34 | Change management strategy | | |
| 35 | | Change network charter & kickoff packet | 2 hari |
| 36 | | Change management assessment | 1 hari |
| 37 | Project management packet | - | 2 hari |
| 38 | Project team kickoff packet | - | 2 hari |
| 39 | Steering committee charter & kickoff packet | | 2 hari |
| 40 | Project plan | | |
| 41 | | Hardware installation | 10 hari |
| 42 | | Software installation | 8 hari |
| 43 | | Kickoff meeting schedule | 1 hari |
| 44 | Sponsorship plan | - | 1 hari |
| | Design | | |
| 1 | Prepare for design workshop | - | 8 hari |
| 2 | Conduct & document design workshop | - | 10 hari |
| 3 | Build design document | - | 27 hari |
| 4 | Complete interface matrix, reporting matrices, and conversion | - | 8 hari |
| 5 | Complete processing schedule, security matrices, and architecture | - | 22 hari |
| 6 | Prioritize and design system modifications | - | 14 hari |
| 7 | Prepare for testing | - | 7 hari |
| 8 | Finalize project plan for development and implementation | - | 2 hari |
| 9 | Issue design book | - | 1 hari |
| 10 | Execute communication plan | - | 1 hari |
| 11 | Execute sponsorship plan | - | 1 hari |
| 12 | Organization impact analysis | - | 5 hari |
| 13 | Obtain sign off | - | 0 hari |
| | Development | | |
| 1 | Configuration application | | 15 hari |
| 2 | Develop report | | 5 hari |
| 3 | Develop interface programs | | 21 hari |
| 4 | Build conversion programs | | 13 hari |

Tabel 4.16 Durasi per Aktivitas di setiap Fase (lanjutan)

| No | Aktivitas | Sub Aktivitas | Durasi |
|----|---|---------------|---------|
| 5 | Develop procedures | | 7 hari |
| 6 | Construct system test packages | | 4 hari |
| 7 | Develop system security | | 8 hari |
| 8 | Execute communication plan | - | 1 hari |
| 9 | Change discussion guide | - | 2 hari |
| 10 | Execute sponsorship plan | - | 2 hari |
| 11 | System testing | - | 7 hari |
| 12 | Integration testing | - | 7 hari |
| 13 | Conversion testing | - | 7 hari |
| 14 | Volume test | - | 1 hari |
| 15 | Stress test | - | 3 hari |
| 16 | Backup/recovery test | - | 4 hari |
| 17 | Obtain user acceptance | - | 2 hari |
| 18 | Finalize rollout and post implementation support project plan | - | 3 hari |
| 19 | Execute communication plan | - | 1 hari |
| 20 | Execute sponsorship plan | - | 1 hari |
| 21 | Policy & procedure development | - | 1 hari |
| 22 | Traint the trainer | - | 5 hari |
| 23 | Training testing, delivery and evaluation | - | 3 hari |
| 24 | Rollout communication plan | - | 2 hari |
| 25 | Obtain sign off | - | 0 hari |
| | Implementation & end user training | | |
| 1 | Training design | - | 7 hari |
| 2 | Convert data | - | 13 hari |
| 3 | Rollout communication | - | 5 hari |
| 4 | Go live | - | 22 hari |
| 5 | Post implementation support & review | - | 10 hari |
| 6 | Determine review method, gather data and conduct review | - | 5 hari |
| 7 | Obtain sign off | - | 0 hari |

Sumber: Penulis

3.4.6. Schedule Development

a. Schedule model data

Untuk lebih mempermudah penentuan lintasan kritis maka dilakukanlah penggabungan kegiatan.

Tabel 3.17 Data *Critical Path Method Project Management Implementation ERP*

| No | KODE AKTIVITAS | NAMA AKTIVITAS | DURASI | AKTIVITAS PENDAHULUAN |
|----|----------------|---|--------|-----------------------|
| 1 | | Planning and Initiation | | |
| 2 | | Project charter | | |
| 3 | A | Starting Project | 0 | - |
| 4 | B | Organization plan | 11 | A |
| 5 | C | Issue management plan | 5 | B,E |
| 6 | D | Scope management plan | 5 | A |
| 7 | E | Risk management plan | 3 | D |
| 8 | F | Procurement plan | 12 | C |
| 9 | G | Communication plan | 2 | E |
| 10 | H | Training matrix and plan | 8 | F |
| 11 | J | Current state assessment | 2 | J,H |
| 12 | J | Change management strategy | 3 | G |
| 13 | K | Project management packet | 2 | C |
| 14 | L | Project team kickoff packet | 2 | K |
| 15 | M | Steering committee charter & kickoff packet | 2 | I |
| 16 | N | Project plan | 19 | F,L |
| 17 | O | Sponsorship plan | 1 | N,M |
| 18 | | Design | | |
| 19 | P | prepare for design workshop | 8 | O |
| 20 | Q | Conduct & document design workshop | 10 | P |
| 21 | R | Build design document | 27 | Q |
| 22 | S | Complete interface matrix, reporting matrices, and conversion | 8 | M |
| 23 | T | Complete processing schedule, security matrices, and architecture | 22 | S |
| 24 | U | Prioritize and design system modifications | 14 | T |
| 25 | V | Prepare for testing | 7 | U |
| 26 | W | Finalize project plan for development and implementation | 2 | X |
| 27 | X | Issue design book | 1 | S,T |
| 28 | Y | Execute communication plan | 1 | R |
| 29 | Z | Execute sponsorship plan | 1 | R |
| 30 | A1 | Organization impact analysis | 5 | Y,Z |
| 31 | A2 | Obtain sign off | 0 | V,W,A1 |
| 32 | | Development | | |
| 33 | A3 | Mengembangkan Configuration application | 15 | A2 |
| 34 | A4 | Develop report | 5 | A3 |
| 35 | A5 | Develop interface programs | 21 | A3 |
| 36 | A6 | Build conversion programs | 13 | A5 |
| 37 | A7 | Develop conversion programs | 7 | A4 |
| 38 | A8 | Construct system test packages | 4 | A6 |
| 39 | A9 | Develop system security | 8 | A8 |
| 40 | A10 | Execute communication plan | 1 | A7,A9 |
| 41 | B1 | Change discussion guide | 2 | A10 |
| 42 | B2 | Execute sponsorship plan | 2 | B1 |
| 43 | B3 | System testing | 7 | A9 |
| 44 | B4 | Integration testing | 7 | B3 |
| 45 | B5 | Conversion testing | 7 | B4 |
| 46 | B6 | Volume test | 1 | B5 |
| 47 | B7 | Stress test | 3 | B6 |

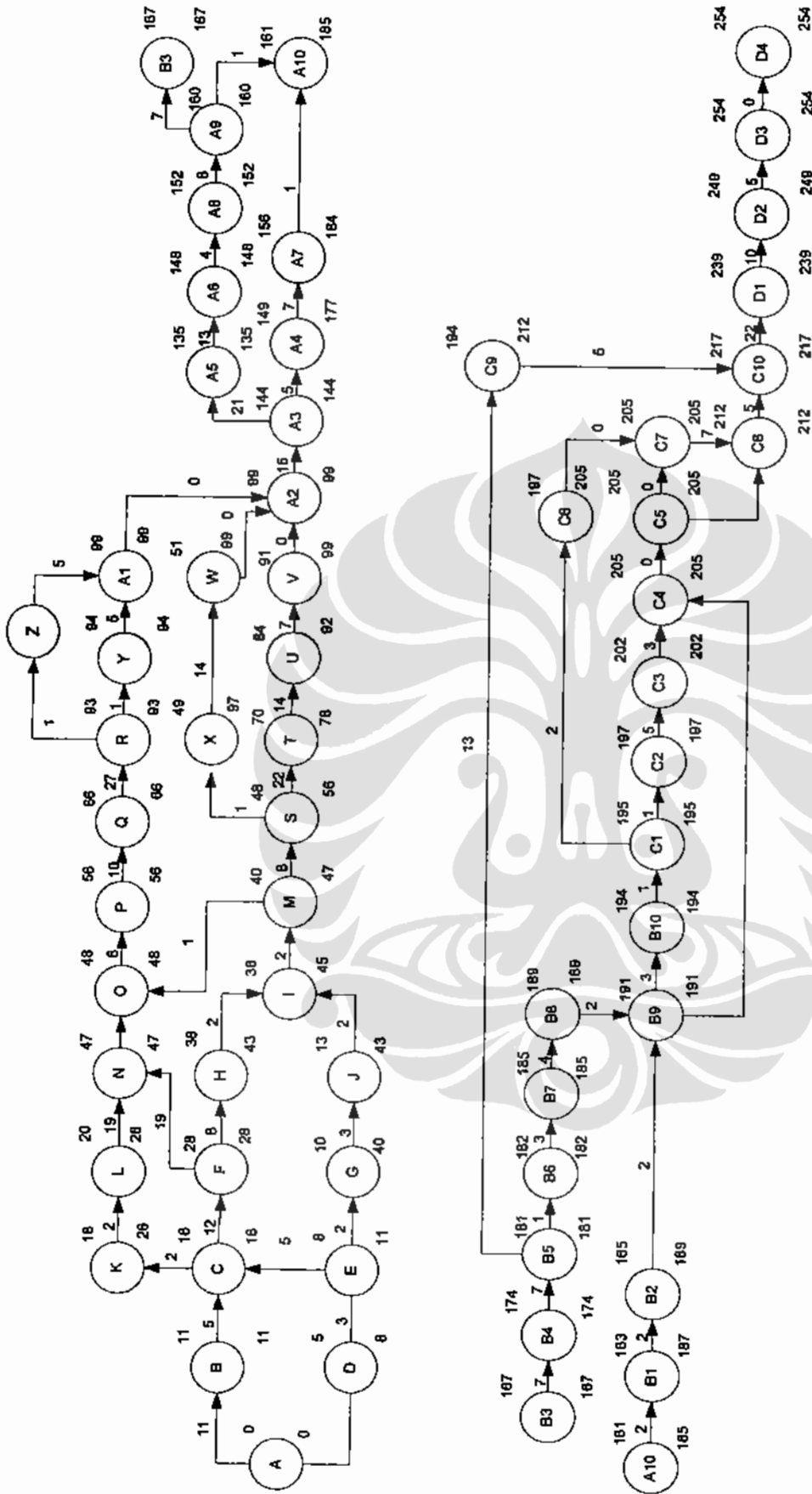
Tabel 3.17 Data *Critical Path Method PM Implementation ERP* (lanjutan)

| No | KODE AKTIVITAS | NAMA AKTIVITAS | DURASI | AKTIVITAS PENDAHULUAN |
|----|----------------|---|--------|-----------------------|
| 48 | B8 | Backup/recovery test | 4 | B7 |
| 49 | B9 | Obtain user acceptance | 2 | B2,B8 |
| 50 | B10 | Finalize rollout and post implementation support project plan | 3 | B9 |
| 51 | C1 | Execule communication plan | 1 | B10 |
| 52 | C2 | Execute sponsorship plan | 1 | C1 |
| 53 | C3 | Policy & procedure development | 1 | C2 |
| 54 | C4 | Train the trainer | 5 | B9,C3 |
| 55 | C5 | Training testing, delivery and evaluation | 3 | C4 |
| 56 | C6 | Rollout communication plan | 2 | C1 |
| 57 | C7 | Obtain sign off | 0 | C5,C6 |
| 58 | | Implementation & end user training | | |
| 59 | C8 | Training design | 7 | C5,57 |
| 60 | C9 | Convert data | 13 | B5 |
| 61 | C10 | Rollout communication | 5 | C9,C8 |
| 62 | D1 | Go live | 22 | C10 |
| 63 | D2 | Post implementation support & review | 10 | D1 |
| 64 | D3 | Determine review method, gather data and conduct review | 5 | D2 |
| 65 | D4 | Obtain sign off | 0 | D3 |

(Sumber: Penulis)

b. Project schedule

Project schedule merupakan penggambaran dari jaringan proyek implementasi sistem ERP. Untuk *project schedule* dibuat di dalam *Microsoft Project*.



Gambar 3.9 Critical Path Method Metodologi Project Management Implementation ERP (Sumber: Penulis)

Tabel 3.18 Identifikasi Jalur Kritis dan Slack Metodologi Project Management Implementation ERP

| No | KODE AKTIVITAS | NAMA AKTIVITAS | DURASI | AKTIVITAS PENDAHULUAN | JENIS KETERKAITAN | EST | EFT | LST | LFT | Slack |
|----|----------------|---|--------|-----------------------|-------------------|-----|-----|-----|-----|-------|
| 1 | | Planning and Initiation | | | | | | | | |
| 2 | | Project charter | | | | | | | | |
| 3 | A | Starting Project | 0 | - | - | 0 | 0 | 0 | 0 | 0 |
| 4 | B | Organization plan | 11 | A | 3FS | 0 | 11 | 0 | 11 | 0 |
| 5 | C | Issue management plan | 5 | B,E | 4FS,7FS | 11 | 16 | 11 | 16 | 0 |
| 6 | D | Scope management plan | 5 | A | 3FS | 0 | 5 | 3 | 8 | 3 |
| 7 | E | Risk management plan | 3 | D | 6FS | 5 | 8 | 8 | 11 | 3 |
| 8 | F | Procurement plan | 12 | C | 5FS | 16 | 28 | 16 | 28 | 0 |
| 9 | G | Communication plan | 2 | E | 7FS | 8 | 10 | 39 | 41 | 31 |
| 10 | H | Training matrix and plan | 8 | F | 8FS | 28 | 36 | 36 | 44 | 8 |
| 11 | I | Current state assessment | 2 | J,H | 12FS,10FS | 36 | 38 | 44 | 46 | 8 |
| 12 | J | Change management strategy | 3 | G | 9FS | 10 | 13 | 41 | 44 | 31 |
| 13 | K | Project management packet | 2 | C | 5FS | 16 | 18 | 24 | 26 | 8 |
| 14 | L | Project team kickoff packet | 2 | K | 13FS | 18 | 20 | 26 | 28 | 8 |
| 15 | M | Steering committee charter & kickoff packet | 2 | I | 11FS | 38 | 40 | 46 | 48 | 8 |
| 16 | N | Project plan | 19 | F,L | 8FS,14FS | 28 | 47 | 28 | 47 | 0 |
| 17 | O | Sponsorship plan | 1 | N,M | 16FS,15FS | 47 | 48 | 47 | 48 | 0 |
| 18 | | Design | | | | | | | | |
| 19 | P | prepare for design workshop | 8 | O | 17FS | 48 | 56 | 48 | 56 | 0 |
| 20 | Q | Conduct & document design workshop | 10 | P | 19FS | 56 | 66 | 56 | 66 | 0 |
| 21 | R | Build design document | 27 | Q | 20FS | 66 | 93 | 66 | 93 | 0 |
| 22 | S | Complete interface matrix, reporting matrices, and conversion | 8 | M | 15FS | 40 | 48 | 48 | 56 | 8 |
| 23 | T | Complete processing schedule, security matrix, and architecture | 22 | S | 22FS | 48 | 70 | 56 | 78 | 8 |
| 24 | U | Prioritize and design system modifications | 14 | T | 23FS | 70 | 84 | 78 | 92 | 8 |
| 25 | V | Prepare for testing | 7 | U | 24FS | 84 | 91 | 92 | 99 | 8 |

Tabel 3.18 Identifikasi Jalur Kritis dan Slack Metodologi Project Management Implementation ERP (lanjutan)

| No | KODE AKTIVITAS | NAMA AKTIVITAS | DURASI | AKTIVITAS PENDAHULUAN | JENIS KETERKAITAN | EST | EFT | LST | LFT | Slack |
|----|----------------|---|--------|-----------------------|-------------------|-----|-----|-----|-----|-------|
| 26 | W | Finalize project plan for development and implementation | 2 | X | 27FS | 71 | 73 | 97 | 99 | 26 |
| 27 | X | Issue design book | 1 | S,T | 22FS,23FS | 70 | 71 | 96 | 97 | 26 |
| 28 | Y | Execute communication plan | 1 | R | 21FS | 93 | 94 | 93 | 94 | 0 |
| 29 | Z | Execute sponsorship plan | 1 | R | 21FS | 93 | 94 | 93 | 94 | 0 |
| 30 | A1 | Organization impact analysis | 5 | Y,Z | 28FS,29FS | 94 | 99 | 94 | 99 | 0 |
| 31 | A2 | Obtain sign off | 0 | V,W,A1 | 25FS,26FS,30FS | 99 | 99 | 99 | 99 | 0 |
| 32 | | Development | | | | | | | | |
| 33 | A3 | Configuration application | 15 | A2 | 31FS | 99 | 114 | 99 | 114 | 0 |
| 34 | A4 | Develop report | 5 | A3 | 33FS | 114 | 119 | 172 | 177 | 58 |
| 35 | A5 | Develop interface programs | 21 | A3 | 33FS | 114 | 135 | 114 | 135 | 0 |
| 36 | A6 | Build conversion programs | 13 | A5 | 35FS | 135 | 148 | 135 | 148 | 0 |
| 37 | A7 | Develop conversion programs | 7 | A4 | 34FS | 119 | 126 | 177 | 184 | 58 |
| 38 | A8 | Construct system test packages | 4 | A6 | 36FS | 148 | 152 | 148 | 152 | 0 |
| 39 | A9 | Develop system security | 8 | A8 | 38FS | 152 | 160 | 152 | 160 | 0 |
| 40 | A10 | Execute communication plan | 1 | A7,A9 | 37FS,39FS | 160 | 161 | 184 | 185 | 24 |
| 41 | B1 | Change discussion guide | 2 | A10 | 40FS | 161 | 163 | 185 | 187 | 24 |
| 42 | B2 | Execute sponsorship plan | 2 | B1 | 41FS | 163 | 165 | 187 | 189 | 24 |
| 43 | B3 | System testing | 7 | A9 | 39FS | 160 | 167 | 160 | 167 | 0 |
| 44 | B4 | Integration testing | 7 | B3 | 43FS | 167 | 174 | 167 | 174 | 0 |
| 45 | B5 | Conversion testing | 7 | B4 | 44FS | 174 | 181 | 174 | 181 | 0 |
| 46 | B6 | Volume test | 1 | B5 | 45FS | 181 | 182 | 181 | 182 | 0 |
| 47 | B7 | Stress test | 3 | B6 | 46FS | 182 | 185 | 182 | 185 | 0 |
| 48 | B8 | Backup/recovery test | 4 | B7 | 47FS | 185 | 189 | 185 | 189 | 0 |
| 49 | B9 | Obtain user acceptance | 2 | B2,B8 | 42FS,48FS | 189 | 191 | 189 | 191 | 0 |
| 50 | B10 | Finalize rollout and post implementation support project plan | 3 | B9 | 49FS | 191 | 194 | 191 | 194 | 0 |
| 51 | C1 | Execute communication plan | 1 | B10 | 50FS | 194 | 195 | 194 | 195 | 0 |

Tabel 3.18 Identifikasi Jalur Kritis dan Slack Metodologi Project Management Implementation ERP (lanjutan)

| No | KODE AKTIVITAS | NAMA AKTIVITAS | DURASI | AKTIVITAS PENDAHULUAN | JENIS KETERKAITAN | EST | EFT | LST | LFT | Slack |
|----|----------------|---|--------|-----------------------|-------------------|-----|-----|-----|-----|-------|
| 52 | C2 | Execute sponsorship plan | 1 | C1 | 51FS | 195 | 196 | 195 | 196 | 0 |
| 53 | C3 | Policy & procedure development | 1 | C2 | 52FS | 196 | 197 | 196 | 197 | 0 |
| 54 | C4 | Train the trainer | 5 | B9,C3 | 49FS,53FS | 197 | 202 | 197 | 202 | 0 |
| 56 | C6 | Rollout communication plan | 2 | C1 | 51FS | 195 | 197 | 203 | 205 | 8 |
| 57 | C7 | Obtain sign off | 0 | C5,C6 | 55FS,56FS | 197 | 197 | 205 | 205 | 8 |
| 58 | | Implementation & end user training | | | | | | | | |
| 59 | C8 | Training design | 7 | C5,57 | 55FS | 205 | 212 | 205 | 212 | 0 |
| 60 | C9 | Convert data | 13 | B5 | 55FS | 181 | 194 | 199 | 212 | 18 |
| 61 | C10 | Rollout communication | 5 | C9,C8 | 60FS,59FS | 212 | 217 | 212 | 217 | 0 |
| 62 | D1 | Go live | 22 | C10 | 61FS | 217 | 239 | 217 | 239 | 0 |
| 63 | D2 | Post implementation support & review | 10 | D1 | 62FS | 239 | 249 | 239 | 249 | 0 |
| 64 | D3 | Determine review method, gather data and conduct review | 5 | D2 | 63FS | 249 | 254 | 249 | 254 | 0 |
| 65 | D4 | Obtain sign off | 0 | D3 | 64FS | 254 | 254 | 254 | 254 | 0 |

(Sumber: Penulis)

Lintasan kritis:

1. A – B – C – F – N – O – P – R – Z – A1 – A2 – A3 – A5 – A6 – A8 – A9 – B3 – B4 – B5 – B6 – B7 – B8 – B9 – B10 – C1 – C2 – C3 – C4 – C5 – C7 – C8 – C10 – D1 – D2 – D3 – D4.
2. A – B – C – F – N – O – P – R – Z – A1 – A2 – A3 – A5 – A6 – A8 – A9 – B3 – B4 – B5 – B6 – B7 – B8 – B9 – B10 – C1 – C2 – C3 – C4 – C5 – C8 – C10 – D1 – D2 – D3 – D4.
3. A – B – C – F – N – O – P – R – Y – A1 – A2 – A3 – A5 – A6 – A8 – A9 – B3 – B4 – B5 – B6 – B7 – B8 – B9 – B10 – C1 – C2 – C3 – C4 – C5 – C7 – C8 – C10 – D1 – D2 – D3 – D4.

4. A – B – C – F – N – O – P – R – Y – A1 – A2 – A3 – A5 – A6 – A8 – A9
 – B3 – B4 – B5 – B6 – B7 – B8 – B9 – B10 – C1 – C2 – C3 – C4 – C5 –
 C8 – C10 – D1 – D2 – D3 – D4.

Aktivitas yang memiliki *slack* kecil yaitu:

Tabel 3.19 Nama Aktivitas yang Memiliki *Slack* kecil

| No | Kode Aktivitas | Nama Aktivitas | EST | EFT | LST | LFT | Slack |
|----|----------------|--|-----|-----|------|-----|-------|
| 1 | D | Scope management plan | 0 | 5 | 3 | 8 | 3 |
| 2 | E | Risk management plan | 5 | 8 | 8 | 11 | 2 |
| 3 | H | Training matrix & plan | 28 | 36 | 36 | 44 | 8 |
| 4 | I | Current state assessment | 36 | 38 | 44 | 46 | 8 |
| 5 | K | Project management packet | 16 | 18 | 24 | 26 | 8 |
| 6 | L | Project team kick off packet | 18 | 20 | 26 | 28 | 8 |
| 7 | M | Steering committee charter & kickoff packet | 38 | 40 | 46 | 48 | 8 |
| 8 | S | Complete interface matrix, reporting matrices & convension | 40 | 48 | 48 | 56 | 8 |
| 9 | T | Complete processing schedule security | 48 | 70 | 56 | 78 | 8 |
| 10 | U | Prioritize & design sytsem modification | 70 | 84 | 78 | 92 | 8 |
| 11 | V | Prepare for testing | 84 | 91 | 92 | 99 | 8 |
| 12 | C6 | Rollout communication plan | 195 | 197 | 2203 | 205 | 8 |
| 13 | C7 | Obtain sign off | 197 | 197 | 205 | 205 | 8 |

3.5. Pengumpulan Data dalam Implementasi Sistem ERP dengan *Cheap Dynamic Implementation ERP*

Dalam rangka membuat daftar dan definisi aktivitas implementasi sistem ERP dengan *cheap dynamic* diperlukan 9 fase yaitu *plan, requirement study, developing and realizing solution, deploy, resolving outstanding issues, public training, go live preparation, go live* dan *support and maintenance*. Untuk setiap implementasi ada standar kegiatan yang harus dibuat agar menunjang keberhasilan proyek implementasi

3.5.1. Standar Kerja dan Operasi pada Tahapan Perencanaan (*Plan*)Tabel 3.20 Standar Kerja dan Operasi pada Tahap Perencanaan (*Plan*)

| | PEKERJAAN | DIGARAI | INSTRUMEN | SUMBER DAYA |
|----------|---|---|---|---|
| 1 | General project management | | | |
| 1-1 | Membuat perjanjian dengan <i>customer</i> | Mengambil informasi mengenai proses <i>sales, customer, schedule</i> dan bisnis | • <i>Handover</i> dari <i>sales checklist</i> | ERP project manager, consultant, account manager |
| 1-2 | Me <i>review</i> dokumen dari <i>customer</i> | Mengambil informasi mengenai proses <i>sales, customer, schedule</i> dan bisnis | • <i>Hand out</i> dari <i>sales checklist</i> | ERP project manager, consultants, account manager |
| 1-3 | Conduct <i>initial alignment meeting</i> with <i>customer</i> | Jadwal pertemuan | | ERP project manager, consultants, account manager |
| 1-4 | Prepare <i>engagement plan</i> | <i>Engagement plan</i> | Surat perjanjian kerja sama | ERP project manager, consultants, account manager |
| 1-5 | Mempersiapkan pertanyaan | Konfirmasi ketersediaan <i>hardware</i> dan sumberdaya Konfirmasi tanggal dan agenda untuk melakukan <i>kick off</i> | Kuesioner standar | ERP project manager, consultants |
| 1-6 | Conduct <i>final alignment meeting</i> with <i>customer</i> | <i>Project risk</i> sudah diukur dan diinvestigasi. | <i>Project risk assessment</i> | ERP project manager, consultant, account manager |
| 1-8 | Plan <i>pre-engagement</i> with the <i>internal team</i> | Mengkomunikasikan <i>project plan</i> | <i>Project plan</i> | ERP project manager, client project manager |

(Sumber: Penulis)

3.5.2. Standar Kerja dan Operasi pada Tahapan *Requirement Study*Tabel 3.21 Standar Kerja dan Operasi pada Tahapan *Requirement Study*

| | PEKERJAAN | INSTRUMENTAL | OPERASI | LOKASI SUMBER DAYA |
|-----|---|--|---------------------------|--|
| 1 | <i>General project management</i> | | | |
| 1-1 | <i>Review infrastructure</i> | <ul style="list-style-type: none"> Memastikan <i>project responsibilities</i> secara internal | | <i>ERP project manager, client project manager</i> |
| 1-2 | <i>Review and document current business</i> | <ul style="list-style-type: none"> Kebutuhan bisnis didefinisikan secara detail pada area: <i>sales; purchasing; inventory, production and MRP; service management; banking; reporting, Business partner and item master data; chart of accounts.</i> Menentukan kebutuhan <i>authorizations</i> dan <i>data ownership; data migration; interface</i> dan <i>integration points; sistem performa</i> | <i>Business blueprint</i> | <i>ERP consultant</i> |

(Sumber: Penulis)

3.5.3. Standar Kerja dan Operasi pada Tahapan *Developing and Realizing Solution*

Tabel 3.22 Standar Kerja dan Operasi pada Tahapan *Developing and Realizing Solution*

| # | DESKRIPSI PEKERJAAN | HASIL YANG INGIN DICAPAI | OUTPUT | ALOKASI SUMBER DAYA |
|-----|--|--|---|---|
| 1 | <i>General project management</i> | | | |
| 1-1 | <i>Develop customization</i> | <ul style="list-style-type: none"> - Relevan item, BP, dan saldo awal dari sistem terdahulu dan memakai <i>template</i> yang telah ditentukan | <i>Master data dan opening balance data</i> | <i>ERP consultant, client IT administrator</i> |
| 1-2 | <i>QA/Testing Customization</i> | <i>High level design document</i> dibuat berdasarkan <i>blueprint</i> | | <i>ERP project manager, client project manager, ERP consultants</i> |
| 1-3 | <i>Prepare user acceptance test scenario</i> | <ul style="list-style-type: none"> - <i>User roles</i> didefinisikan dan disesuaikan dengan <i>business processes</i> - <i>Communication strategy</i> untuk <i>end user</i> ditentukan | <ul style="list-style-type: none"> - <i>Change management plan</i> - <i>Change management guide</i> | <i>ERP project manager, client project manager, ERP consultant</i> |
| 1-4 | <i>Develop training material</i> | <ul style="list-style-type: none"> - Penentuan <i>training strategy</i> - Membuat <i>preliminary training schedule</i> - Pembuatan <i>training material</i> | <i>Training plan</i> | <i>ERP project manager, client project manager, ERP consultants</i> |

Tabel 3.22 Standar Kerja dan Operasi pada Tahapan *Developing and Realizing Solution* (lanjutan)

| # | DESKRIPSI PEKERJAAN | HASIL YANG INGIN DICAPAI | OUTPUT | ALOKASI SUMBER DAYA |
|-----|---|--|--------|--|
| 1-5 | <i>Import sample master files for testing purpose</i> | – <i>Sample master file</i> diuji | | <i>Client IT adminisitrator</i> |
| 1-6 | <i>System wide test and verification</i> | – Sistem ERP dikonfigurasi sesuai dengan yang akan digunakan untuk produksi berdasarkan <i>blueprint</i> | | <i>ERP consultant, client IT administrator</i> |

(Sumber: Penulis)

3.5.4. Standar Kerja dan Operasi pada Tahapan *Deploy*

Tabel 3.23 Standar Kerja dan Operasi pada Tahapan *Deploy*

| # | DESKRIPSI PEKERJAAN | HASIL YANG INGIN DICAPAI | OUTPUT | ALOKASI SUMBER DAYA |
|-----|---------------------------------------|--|--------------------------------|--|
| 1 | <i>General project management</i> | | | |
| 1-1 | <i>Installation to testing server</i> | – <i>Software</i> dengan <i>database</i> pada <i>client hardware</i> untuk <i>production use</i> | | <i>ERP consultant, client IT administrator</i> |
| 1-2 | <i>User acceptance testing</i> | – <i>Roles, tasks</i> dan <i>training schedule</i> sudah dikomunikasikan pada <i>end users</i> | <i>Change management guide</i> | <i>ERP project manager, client project manger, client functional leads</i> |

Tabel 3.23 Standar Kerja dan Operasi pada Tahapan *Deploy* (lanjutan)

| # | DESKRIPSI PEKERJAAN | HASIL YANG INGIN DICAPAI | OUTPUT | ALOKASI SUMBER |
|-----|------------------------------------|--|---------------------------------|---|
| 1-3 | <i>Update system and materials</i> | <i>All relevant item, business partner, dan accounting data di input ke dalam sistem ERP</i> | <i>Master data verification</i> | <i>ERP consultant, client IT administrators</i> |

(Sumber: Penulis)

3.5.5. Standar Kerja dan Operasi pada Tahapan *Resolving Outstanding Issues***Tabel 3.24** Standar Kerja dan Operasi pada Tahapan *Resolving Outstanding Issues*

| # | DESKRIPSI PEKERJAAN | HASIL YANG INGIN DICAPAI | OUTPUT | ALOKASI SUMBER DAYA |
|-----|---|--|------------------|--|
| 1 | <i>General project management</i> | | | |
| 1-1 | <i>Work with key users to resolve know issues</i> | <i>Test result dan perubahan-perubahan yang diperlukan sudah di review</i> <i>Project plan is updated</i> | <i>Issue log</i> | <i>ERP project manager, client project manager, ERP consultant</i> |

(Sumber: Penulis)

3.5.6. Standar Kerja dan Operasi pada Tahapan *Public Training*Tabel 3.25 Standar Kerja dan Operasi pada Tahapan *Public Training*

| # | DESKRIPSI PEKERJAAN | HASIL YANG INGIN DICAPAI | OUTPUT | ALOKASI SUMBER DAYA |
|-----|---|--|----------------------|---|
| 1 | <i>General project management</i> | | | |
| 1-1 | <i>Provide public training to end users</i> | <i>Training plan schedule</i> dikonfirmasi dan dikomunikasikan kepada <i>user</i> | <i>Training plan</i> | <i>ERP project manager, client project manager, ERP consultant, client IT administrator</i> |

(Sumber: Penulis)

3.5.7. Standar Kerja dan Operasi pada Tahapan *Go Live Preparation*Tabel 3.26 Standar Kerja dan Operasi pada Tahapan *Go Live Preparation*

| # | DESKRIPSI PEKERJAAN | HASIL YANG INGIN DICAPAI | OUTPUT | ALOKASI SUMBER DAYA |
|-----|-----------------------------------|--|--|--|
| 1 | <i>General project management</i> | | | |
| 1-1 | <i>Master data upload test</i> | <i>Copy production ERP system database</i> dan dibuat pada <i>ERP system test</i> | | <i>ERP consultant, client IT administrator</i> |
| 1-2 | <i>Final integration test</i> | Semua <i>test case</i> sukses dilakukan pada <i>testing environment</i> | <i>Change request</i> dan <i>issue log</i> | <i>ERP consultants, client functional lead</i> |

Tabel 3.26 Standar Kerja dan Operasi pada Tahapan *Go Live Preparation*
(lanjutan)

| # | DESKRIPSI PEKERJAAN | HASIL YANG INGIN DICAPAI | OUTPUT | ALOKASI SUMBER DAYA |
|-----|--|--|----------------------|---|
| 1-3 | <i>Master data final upload</i> | Semua <i>master data</i> telah diinput ke dalam sistem | • <i>Master list</i> | <i>ERP consultants, client functional leads</i> |
| 1-4 | <i>Final update system and documents</i> | Semua administrasi <i>setting</i> dan konfigurasi sudah lengkap <i>ERP system client installation</i> sudah lengkap | | <i>ERP consultants, client IT administrator</i> |

(Sumber: Penulis)

3.5.8. Standar Kerja dan Operasi pada Tahapan *Go Live*

Tabel 3.27 Standar Kerja dan Operasi pada Tahapan *Go live*

| # | DESKRIPSI PEKERJAAN | HASIL YANG INGIN DICAPAI | OUTPUT | ALOKASI SUMBER DAYA |
|-----|-----------------------------------|--|---------------------|--|
| 1 | <i>General project management</i> | | | |
| 1-1 | <i>Balance upload</i> | Saldo data keuangan telah di <i>upload</i> | • <i>Check list</i> | <i>ERP consultants, client project manager, client functional leads, client IT administrator</i> |

Tabel 3.27 Standar Kerja dan Operasi pada Tahapan *Go live* (lanjutan)

| # | DESKRIPSI PEKERJAAN | HASIL YANG INGIN DICAPAI | OUTPUT | ALOKASI SUMBER DAYA |
|-----|---|------------------------------------|--|---|
| 1-2 | <i>Cut off old system, run solo with new system</i> | <i>Go live checklist completed</i> | <ul style="list-style-type: none"> • <i>Go live checklist</i> | <i>ERP consultants, client IT administrator, client project manager</i> |

(Sumber: Penulis)

3.5.9. Standar Kerja dan Operasi pada Tahapan *Support and Maintenance*Tabel 3.28 Standar Kerja dan Operasi pada Tahapan *Support and Maintenance*

| # | DESKRIPSI PEKERJAAN | HASIL YANG INGIN DICAPAI | OUTPUT | ALOKASI SUMBER DAYA |
|-----|---|--|---|---------------------|
| 1 | <i>General project management</i> | | | |
| 1-1 | <i>Closing, system assessment, sign off</i> | <ul style="list-style-type: none"> – Project plan di review kembali – Semua <i>milestones</i> sudah berhasil dilakukan – <i>Customer</i> sudah menandatangani <i>final project acceptance</i> | <ul style="list-style-type: none"> • <i>Minutes meeting</i> • <i>Post go live</i> • <i>Questionnaire</i> | <i>Project team</i> |

Tabel 3.28 Standar Kerja dan Operasi pada Tahapan *Support and Maintenance* (lanjutan)

| | WESKUNSI PEKERJAAN | HASIL YANG DINDIGAKAN | DESKRIPSI | ALOKASI SUMBER DAYA |
|-----|--|--|--------------------|--|
| 1-2 | <i>Support on-site for all modules</i> | Konsultan ERP berada secara <i>on-site</i> agar dapat cepat melakukan respon secara cepat terhadap isu-isu yang mungkin muncul | • <i>Issue log</i> | <i>ERP consultants, ERP project manager, client IT administrator</i> |

(Sumber: Penulis)

3.5.10. Activity Duration Estimating

Berikut merupakan hasil pengolahan data yang ditampilkan secara keseluruhan dari setiap fase.

Tabel 3.29 Durasi per Aktivitas di setiap Fase

| No | Aktivitas | Sub Aktivitas | Durasi |
|----|---|-------------------|---------|
| | Plan | | |
| 1 | Plan Pre-Engagement with the customer | | 0 hari |
| 2 | Review dokumentasi from sales | | 4 hari |
| 3 | Conduct initial alignment meeting with the customer | | 1 hari |
| 4 | Prepare engagement plan | | 5 hari |
| 5 | Prepare customer questionnaire | | 2 hari |
| 6 | Deliver pre-engagement document to customer | | 1 hari |
| 7 | Conduct final alignment meeting with the customer | | 1 hari |
| 8 | Plan pre-engagement with the internal team | | 3 hari |
| | Requirement study | | |
| 1 | Review infrastructure | | 10 hari |
| 2 | Review and document current business process | | |
| 3 | | General parameter | |
| | | • Currency | 1 hari |
| | | • Data format | 1 hari |
| | | • Unit of measure | 1 hari |

Tabel 3.29 Durasi per Aktivitas di setiap Fase (lanjutan)

| No | Aktivitas | Sub Aktivitas | Durasi |
|----|--|------------------------------|---------|
| | | • Validation method | 1 hari |
| | | • Payment term | 1 hari |
| | | • Payment method | 1 hari |
| 4 | | Chart of account | 2 hari |
| 5 | | Warehouse | 1 hari |
| 6 | | Customer group & vendor | 1 hari |
| 7 | | Vendor group & vendor | 1 hari |
| 8 | | Asset class & fixed asset | 2 hari |
| 9 | | Bank master data | 3 hari |
| 10 | | GL Budgeting | 1 hari |
| 11 | | Item group & item | 1 hari |
| 12 | | Barcode processing | 1 hari |
| 13 | | Purchasing process | |
| | | • Purchasing order & return | 1 hari |
| | | • Good receipt & return | 1 hari |
| | | • Approval strategy | 1 hari |
| 14 | | Sales process | |
| | | • Sales contract | 1 hari |
| | | • Sales order & return | 1 hari |
| | | • Delivery order & return | 1 hari |
| 15 | | Inventory process | |
| | | • Stock transfer request | 1 hari |
| | | • Stock transfer order | 1 hari |
| | | • Good receipt for STO | 1 hari |
| | | • Good issue & good receipt | 1 hari |
| | | • Cycle count (stock count) | 1 hari |
| 16 | | Customer service process | |
| | | • Request service | 1 hari |
| | | • Work order process | 1 hari |
| 17 | | Finance & accounting process | |
| | | • Invoicing AP | 1 hari |
| | | • Invoicing AR | 1 hari |
| | | • Outgoing payment | 1 hari |
| | | • Incoming payment | 1 hari |
| | | • Bank reconciliation | 1 hari |
| 18 | | Interface with add on | 2 hari |
| 19 | | Form and report layout | 2 hari |
| | Developing and Realizing Solutions | | |
| 1 | Develop customization | | 45 hari |
| 2 | QA/Testing customization | | 6 hari |
| 3 | Prepare user acceptance test scenario | | 7 hari |
| 4 | Develop training materials | | 5 hari |
| 5 | Import sample master files for testing purpose | | 10 hari |
| 6 | Sytem wide test and verification | | 7 hari |
| | Deploy | | |
| 1 | Installation to testing server | | 6 hari |
| 2 | User acceptance testing | | 3 hari |
| 3 | Update system and materials | | 8 hari |

Tabel 3.29 Durasi per Aktivitas di setiap Fase (lanjutan)

| No | Aktivitas | Sub Aktivitas | Durasi |
|----|--|--------------------------------------|---------|
| | Resolving Outstanding Issues | | |
| 1 | Work with key users to resolve know issues | | 7 hari |
| | Public Training | | |
| 1 | Provide public training to end users | | 8 hari |
| | Go Live Preparation | | |
| 1 | Master data upload test | | 13 hari |
| 2 | Final integration test | | 24 hari |
| 3 | Master data final upload | | 7 hari |
| 4 | Final update systems and documents | | 10 hari |
| | Go Live | | |
| 1 | Balance upload | | |
| | | - Balance item & fixed asset | |
| | | • Balance AP | 2 hari |
| | | • Balance AR | 2 hari |
| | | • Balance GL | 2 hari |
| | | - Confirm balance item & fixed asset | |
| | | • Balance AP | 2 hari |
| | | • Balance AR | 2 hari |
| | | • Balance GL | 2 hari |
| 2 | Cut off old system, run solo with new system | | 0 hari |
| | Support and maintenance | | |
| 1 | Closing, system assessment, sign off | | 2 hari |
| 2 | Support on site for all modules | | 22 hari |
| 3 | Proyek selesai | | 0 hari |

(Sumber: Penulis)

3.5.11. Schedule Development

a. Schedule model data

Untuk lebih mempermudah penentuan lintasan kritis maka dilakukanlah penggabungan kegiatan.

Tabel 3.30 Data *Critical Path Method* Metodologi *Cheap Dyanamic*

| No | Kode Aktivitas | Nama aktivitas | Durasi | Aktivitas Pendahulu |
|----|----------------|---|--------|---------------------|
| | | Plan | | |
| 1 | A | Plan Pre-Engagement with the Customer | 0 | - |
| 2 | B | Review documentation from Sales | 4 | A |
| 3 | C | Conduct initial alignment meeting with the customer | 1 | B |

Tabel 3.30 Data *Critical Path Method* Metodologi *Cheap Dynamic* (lanjutan)

| No | Kode Aktivitas | Nama aktivitas | Durasi | Aktivitas Pendahulu |
|----|----------------|---|--------|---------------------|
| 4 | D | Prepare Engagement Plan | 5 | B |
| 5 | E | Prepare Customer Questionnaire | 2 | C |
| 7 | G | Conduct final alignment meeting with the Customer | 1 | F,E |
| 8 | H | Plan Pre-Engagement with the internal team | 3 | G |
| | | Requirement Study | | |
| 9 | I | Review infrastructure | 10 | H |
| 10 | J | General Parameter | 6 | I |
| 11 | K | Chart of Account | 1 | J |
| 12 | L | Warehouse | 1 | J |
| 13 | M | Customer Group & Customer | 1 | Q |
| 14 | N | Vendor Group & Vendor | 1 | M |
| 15 | O | Asset class & Fixed Asset | 2 | L |
| 16 | P | Bank master data | 3 | N,S |
| 17 | Q | GL Budgeting | 1 | K |
| 18 | R | Item Group & Item | 1 | O |
| 19 | S | Barcode Processing | 1 | R |
| 20 | T | Purchasing Process | 3 | I,S |
| 21 | U | Sales Process | 3 | T |
| 22 | V | Inventory Process | 5 | U |
| 23 | W | Customer Service Process | 2 | V |
| 24 | X | Finance & Accounting Process | 5 | W |
| 25 | Y | Interface with Add On | 2 | X,P |
| 26 | Z | Form and Report Layout | 2 | Y |
| | | Developing and realizing solution | | |
| 27 | A1 | Develop Customization | 45 | Z |
| 28 | A2 | QA/Testing Customization | 7 | A1 |
| 29 | A3 | Prepare User Acceptance Test Scenarios | 7 | A2 |
| 30 | A4 | Develop Training Materials | 5 | A3 |
| 31 | A5 | Import Sample Master files for Testing Purpose | 10 | A2 |
| 32 | A6 | System-wide Test and Verification | 7 | A5 |
| | | Deploy | | |
| 33 | A7 | Installation to Testing Server | 6 | A6 |
| 34 | A8 | User Acceptance Testing | 3 | A4 |
| 35 | A9 | Update System and Materials | 8 | A7,A8 |
| | | Resolving Outstanding Issues | | |
| 36 | A10 | Work with key users to resolve known issues | 7 | A9 |
| | | Public Training | | |
| 37 | B1 | Provide Public Training to End Users | 8 | A4,A8 |
| | | Go Live Preparation | | |
| 38 | B2 | Master Data Upload test | 13 | A10,B1 |
| 39 | B3 | Final Integration Test | 24 | B2 |
| 40 | B4 | Master Data Final Upload | 7 | B3 |
| 41 | B5 | Final Update Systems and Documents | 10 | B4 |
| | | Go Live | | |
| 42 | B6 | Balance Item & Fixed Asset | 6 | B5 |
| 43 | B7 | Confirm Balance Item & Fixed Asset | 6 | B6 |
| 44 | B8 | Cut off Old System, Run solo with new system | 0 | B7 |

Tabel 3.30 Data *Critical Path Method* (lanjutan)

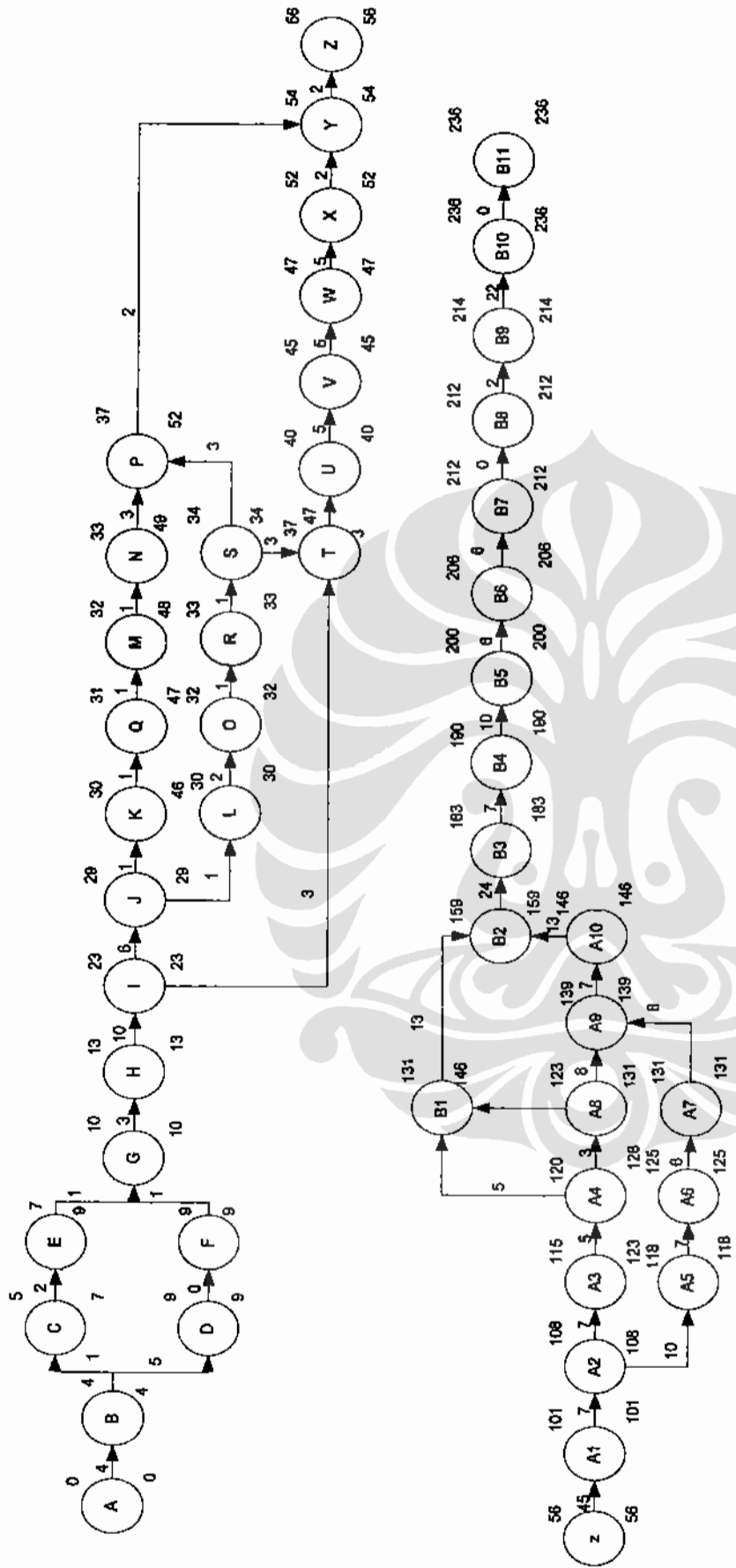
| No | Kode Aktivitas | Nama aktivitas | Durasi | Aktivitas Pendahulu |
|----|----------------|--------------------------------------|--------|---------------------|
| 45 | | Support and Maintenance | | |
| 46 | B9 | Closing, System Assessment, Sign Off | 2 | B8 |
| 47 | B10 | Support on-site for all modules | 22 | B9 |
| 47 | B11 | Proyek selesai | 0 | B10 |

(Sumber: Penulis)

b. Project schedule

Project schedule merupakan penggambaran dari jaringan proyek implementasi sistem ERP. Untuk *project schedule* dibuat di dalam *Microsoft Project*.





Gambar 3.10 Critical Path Method Metodologi Cheap Dynamic (Sumber: Penulis)

Tabel 3.31 Identifikasi Jalur Kritis dan Slack Metodologi Cheap Dynamic

| No | Kode Aktivitas | Nama aktivitas | Durasi | Aktivitas Pendahulu | Jenis Keterkaitan | EST | EFT | LST | LFT | Slack |
|----|----------------|---|--------|---------------------|-------------------|-----|-----|-----|-----|-------|
| | | Plan | | | | | | | | |
| 1 | A | Plan Pre-Engagement with the Customer | 0 | - | | 0 | 0 | 0 | 0 | 0 |
| 2 | B | Review documentation from Sales | 4 | A | 1FS | 0 | 4 | 0 | 4 | 0 |
| 3 | C | Conduct initial alignment meeting with the customer | 1 | B | 2FS | 4 | 5 | 6 | 7 | 2 |
| 4 | D | Prepare Engagement Plan | 5 | B | 2FS | 4 | 9 | 4 | 9 | 0 |
| 5 | E | Prepare Customer Questionnaire | 2 | C | 3FS | 5 | 7 | 7 | 9 | 2 |
| 6 | F | Deliver Pre-Engagement document to Customer | 0 | D | 4FS | 9 | 9 | 9 | 9 | 0 |
| 7 | G | Conduct final alignment meeting with the Customer | 1 | F,E | 5FS,6FS | 9 | 10 | 9 | 10 | 0 |
| 8 | H | Plan Pre-Engagement with the internal team | 3 | G | 7FS | 10 | 13 | 10 | 13 | 0 |
| | | Requirement Study | | | | | | | | |
| 9 | I | Review infrastructure | 10 | H | 8FS | 13 | 23 | 13 | 23 | 0 |
| 10 | J | General Parameter | 6 | I | 9FS | 23 | 29 | 23 | 29 | 0 |
| 11 | K | Chart of Account | 1 | J | 10FS | 29 | 30 | 45 | 46 | 16 |
| 12 | L | Warehouse | 1 | J | 10FS | 29 | 30 | 29 | 30 | 0 |
| 13 | M | Customer Group & Customer | 1 | Q | 17FS | 31 | 32 | 47 | 48 | 16 |
| 14 | N | Vendor Group & Vendor | 1 | M | 13FS | 32 | 33 | 48 | 49 | 16 |
| 15 | O | Asset class & Fixed Asset | 2 | L | 12FS | 30 | 32 | 30 | 32 | 0 |

Tabel 3.31 Identifikasi Jalur Kritis dan Slack Metodologi Cheap Dynamic (lanjutan)

| No | Kode Aktivitas | Nama aktivitas | Durasi | Aktivitas Pendahulu | Jenis Keterkaitan | EST | EFT | LST | LFT | Slack |
|----|----------------|--|--------|---------------------|-------------------|-----|-----|-----|-----|-------|
| 16 | P | Bank master data | 3 | N,S | 14FS,19FS | 34 | 37 | 49 | 2 | 15 |
| 17 | Q | GL Budgeting | 1 | K | 11FS | 30 | 31 | 46 | 7 | 16 |
| 18 | R | Item Group & Item | 1 | O | 15FS | 32 | 33 | 32 | 3 | 0 |
| 19 | S | Barcode Processing | 1 | R | 18FS | 33 | 34 | 33 | 4 | 0 |
| 20 | T | Purchasing Process | 3 | I,S | 9FS,19FS | 34 | 37 | 34 | 7 | 0 |
| 25 | Y | Interface with Add On | 2 | X,P | 24FS,16FS | 52 | 54 | 52 | 54 | 0 |
| 26 | Z | Form and Report Layout | 2 | Y | 25FS | 54 | 56 | 54 | 56 | 0 |
| | | Developing and realizing solution | | | | | | | | |
| 27 | A1 | Develop Customization | 45 | Z | 26FS | 56 | 101 | 56 | 101 | 0 |
| 28 | A2 | QA/Testing Customization | 7 | A1 | 27FS | 101 | 108 | 101 | 108 | 0 |
| 29 | A3 | Prepare User Acceptance Test Scenarios | 7 | A2 | 28FS | 108 | 115 | 116 | 123 | 8 |
| 30 | A4 | Develop Training Materials | 5 | A3 | 29FS | 115 | 120 | 123 | 128 | 8 |
| 31 | A5 | Import Sample Master files for Testing Purpose | 10 | A2 | 28FS | 108 | 118 | 108 | 118 | 0 |
| 32 | A6 | System-wide Test and Verification | 7 | A5 | 31FS | 118 | 125 | 118 | 125 | 0 |
| | | Deploy | | | | | | | | |
| 33 | A7 | Installation to Testing Server | 6 | A6 | 32FS | 125 | 131 | 125 | 131 | 0 |
| 34 | A8 | User Acceptance Testing | 3 | A4 | 30FS | 120 | 123 | 128 | 131 | 8 |
| 35 | A9 | Update System and Materials | 8 | A7,A8 | 33FS,34FS | 131 | 139 | 131 | 139 | 0 |
| | | Resolving Outstanding Issues | | | | | | | | |
| 36 | A10 | Work with key users to resolve known issues | 7 | A9 | 35FS | 139 | 146 | 139 | 146 | 0 |

Tabel 3.31 Identifikasi Jalur Kritis dan Slack Metodologi Cheap Dynamic (lanjutan)

| No | Kode Aktivitas | Nama aktivitas | Durasi | Aktivitas Pendahulu | Jenis Keterkaitan | EST | EFT | LST | LFT | Slack |
|----|----------------|--|--------|---------------------|-------------------|-----|-----|-----|-----|-------|
| 37 | B1 | Public Training | 8 | A4,A8 | 30FS,34FS | 123 | 131 | 138 | 146 | 15 |
| 38 | B2 | Master Data Upload test | 13 | A10,B1 | 36FS,37FS | 146 | 159 | 146 | 159 | 0 |
| 42 | B6 | Balance Item & Fixed Asset | 6 | B5 | 41FS | 200 | 206 | 200 | 206 | 0 |
| 43 | B7 | Confirm Balance Item & Fixed Asset | 6 | B6 | 42FS | 206 | 212 | 206 | 212 | 0 |
| 44 | B8 | Cut off Old System, Run solo with new system | 0 | B7 | 43FS | 212 | 212 | 212 | 212 | 0 |
| 45 | | Support and Maintenance | | | | | | | | |
| 46 | B9 | Closing, System Assessment, Sign Off | 2 | B8 | 44FS | 212 | 214 | 212 | 214 | 0 |
| 47 | B10 | Support on-site for all modules | 22 | B9 | 46FS | 214 | 236 | 214 | 236 | 0 |
| 47 | B11 | Proyek selesai | 0 | B10 | 47FS | 236 | 236 | 236 | 236 | 0 |

(Sumber: Penulis)

Lintasan kritis:

1. A - B - D - F - G - H - I - J - L - O - R - S - T - U - V - W - X - Y - Z - A1 - A2 - A5 - A6 - A7 - A9 - A10 - B2 - B3 - B4 - B5 - B6 - B7 - B8 - B9 - B10 - B11
2. A - B - D - F - G - H - I - T - U - V - W - X - Y - Z - A1 - A2 - A5 - A6 - A7 - A9 - A10 - B2 - B3 - B4 - B5 - B6 - B7 - B8 - B9 - B10 - B11

Dalam lintasan kritis terdapat beberapa *milestones*, yaitu:

- *Plan pre-engagement with the customer*
- *Deliver pre-engagement to customer*
- *Cut off system, run solo with new system*
- Proyek selesai

Perlu diperhatikan bahwa setiap lintasan kritis yang ada pada proyek dipengaruhi oleh aktivitas-aktivitas lainnya yang tidak terdapat pada lintasan kritis. Pada kegiatan-kegiatan di luar jalur kritis ada dua kegiatan yang memiliki *slack* kecil. Tidak hanya aktivitas kritis saja yang perlu diperhatikan tetapi aktivitas yang memiliki *slack* yang kecil juga perlu diperhatikan. Hal ini dikarenakan apabila aktivitas yang memiliki *slack* kecil dalam pelaksanaannya mengalami keterlambatan dan melebihi batas *slack*, maka lintasan kritis pada proyek implementasi ERP juga akan berubah. Aktivitas yang memiliki *slack* kecil yaitu:

Tabel 3.32 Nama Aktivitas yang Memiliki *Slack* kecil:

| No | Kode Aktivitas | Nama Aktivitas | EST | EFT | LST | LFT | Slack |
|----|----------------|---|-----|-----|-----|-----|-------|
| 1 | B | Conduct initial alignment meeting with the customer | 4 | 5 | 6 | 7 | 2 |
| 2 | C | Prepare customer questionnaire | 5 | 7 | 7 | 9 | 2 |
| 3 | A3 | Prepare user acceptance test scenarios | 108 | 115 | 116 | 123 | 8 |
| 4 | A4 | Develop training material | 115 | 120 | 123 | 128 | 8 |
| 5 | A8 | User Acceptance Testing | 120 | 123 | 128 | 131 | 8 |