

## **ABSTRAK**

Perkembangan Sistem Informasi sekarang ini begitu pesat, diantaranya dengan menggunakan media teknologi yang diimplementasikan pada perusahaan, *Information Technology (IT)* dipakai sebagai pendukung proses bisnis perusahaan. Penggunaan *IT* mempunyai tujuan membuat kinerja proses bisnis menjadi lebih efisien dan efektif. Salah satu perusahaan yang menerapkan *IT* sebagai elemen pendukung adalah PT. X. Dibutuhkan analisa dan audit pada sistem proses bisnis perusahaan. Pada karya tulis ini, difokuskan pada departemen *MIS* yang sedang merancang proyek pemrograman di bidang *marketing*. Objek auditnya meliputi pengelolaan sistem proses bisnis, pengelolaan organisasi *IT*, pengelolaan strategi *IT*, pengelolaan infrastruktur *IT*, pengelolaan analisa resiko dan lingkungan *IT*, pengelolaan kualitas dan standar *IT*, pengelolaan sistem keamanan *IT*. Tujuan dari audit yang dilakukan adalah mencari dan memperbaiki kekurangan-kekurangan tim *MIS* yang sedang merancang proyek di PT. X, membuat solusi untuk meningkatkan kinerja perusahaan. Sumber data untuk menulis laporan Tugas Akhir ini diperoleh dari *internet*, *e-book*, buku *teks*. Sumber informasi data perusahaan diperoleh melalui metode wawancara kepada anggota departemen *MIS* di PT. X. *COBIT Framework* merupakan salah satu layanan untuk melakukan audit Sistem Informasi yang paling sering digunakan untuk mengaudit sistem informasi secara cepat, tepat, dan interaktif. *COBIT* yang dipakai untuk proses audit pada PT. X adalah versi *COBIT 4.1*. Dari hasil analisa yang dilakukan pada departemen *MIS* di PT. X, secara umum perusahaan sudah baik menerapkan prosedur-prosedur sistem proses bisnisnya dengan dukungan *IT* yang mapan.

*Keyword* : *COBIT 4.1, Audit, Analisis, Sistem Informasi, Framework, IT*.

## **ABSTRACT**

*Development of Information Systems now so rapidly, such as by using media technology that is implemented in the company, Information Technology (IT) is used as support the company's business processes. The use of IT has the objective to make the performance of business processes become more efficient and effective. One of the companies that use IT as a supporting element is PT. X. Analysis is required and audits on the company's business process system. In this paper, we focus on the MIS department who are designing programming projects in the field of marketing. Object's audit covered the management of business process systems, managing IT organizations, management of IT strategy, IT infrastructure management, environmental management and IT risk analysis, quality management and IT standards, management of IT security systems. The purpose of the audit conducted was to find and fix flaws in the MIS team is designing projects in the PT. X, create solutions to improve company performance. Source of data to write a final report was obtained from the Internet, e-books, textbooks. Sources of information obtained through enterprise data to members of the interview method in the MIS department of PT. X. COBIT Framework is one of the services to perform audits of Information Systems are most often used to audit information systems faster, accurately, and interactive. COBIT is used for the audit process in PT. X is COBIT version 4.1. From the analysis done on the MIS department at PT. X, generally have a good company to apply the procedures of business process systems with an established IT support.*

*Keyword : COBIT 4.1, Audit, Analysis, Information System, Framework, IT.*

## DAFTAR ISI

|  |     |
|--|-----|
| PRAKATA.....   | i   |
| ABSTRAK.....   | iii |
| ABSTRACT.....  | iv  |
| DAFTAR ISI.....  | v   |
| DAFTAR GAMBAR.....   | vii |
| DAFTAR TABEL.....  | ix  |
| DAFTAR LAMPIRAN.....   | x   |
| BAB I PENDAHULUAN.....   | 1   |
| 1.1    Latar Belakang Masalah.....   | 1   |
| 1.2    Rumusan Masalah.....  | 1   |
| 1.3    Tujuan Pembahasan.....  | 2   |
| 1.4    Ruang Lingkup Kajian.....   | 3   |
| 1.5    Sumber Data.....  | 5   |
| 1.6    Sistematika Penyajian.....  | 5   |
| BAB II KAJIAN TEORI.....   | 7   |
| 2.1    Konsep Sistem.....  | 7   |
| 2.2    Konsep Informasi.....   | 9   |
| 2.3    Definisi Sistem Informasi.....  | 10  |
| 2.4    Konsep Analisis.....  | 12  |
| 2.5    Pengertian Audit.....   | 15  |
| 2.5.1    Metode dan Model Audit Sistem Informasi.....                                  | 16  |
| 2.5.2    Metode Audit Sistem Informasi.....  | 16  |
| 2.6    COBIT ( <i>Control Objectives for Information and related Technology</i> )..... | 18  |
| 2.6.1    Sejarah COBIT.....  | 19  |
| 2.6.2    Dasar-dasar COBIT 4.1.....  | 19  |
| 2.6.3    Kerangka Kerja COBIT 4.1.....   | 21  |
| 2.6.4    Goals and Metrics COBIT 4.1.....  | 24  |
| 2.6.5    Maturity Model COBIT 4.1.....   | 25  |
| 2.7    Definisi PO2 Define the Information Architecture.....                           | 26  |
| 2.8    Definisi PO3 Determine Technological Direction.....                             | 28  |
| 2.9    Definisi PO5 Manage the IT Investment.....                                      | 31  |
| 2.10    Definisi PO8 Manage Quality.....   | 33  |
| 2.11    Definisi AI1 Identify Automated Solutions.....                                 | 35  |
| 2.12    Definisi AI2 Acquire and Maintain Application Software. ....                   | 37  |
| 2.13    Definisi AI3 Acquire and Maintain Technology Infrastructure.....               | 40  |

|      |   |     |
|------|---|-----|
| 2.14 | Definisi <i>DS3 Manage Performance and Capacity</i> .....                         | 42  |
| 2.15 | Definisi <i>DS5 Ensure Systems Security</i> .....                                 | 44  |
| 2.16 | Definisi <i>DS9 Manage the Configuration</i> .....                                | 47  |
| 2.17 | Definisi <i>DS11 Manage Data</i> .....  | 48  |
| 2.18 | Definisi <i>DS12 Manage the Physical Environment</i> .....                        | 50  |
|      | BAB III Hasil Analisis.....   | 53  |
| 3.1  | Profile PT. X.....  | 53  |
| 3.2  | Visi dan Misi PT. X.....  | 54  |
| 3.3  | Latar Belakang proyek pembuatan program di bidang Marketing. ....                 | 54  |
| 3.4  | Ruang Lingkup Domain <i>COBIT 4.1</i> yang dipakai untuk proses control dan audit | 55  |
| 3.5  | <i>PO2 Define The Information Architecture Model</i> .....                        | 56  |
| 3.6  | <i>PO3 Determine Technological Direction</i> .....                                | 62  |
| 3.7  | <i>PO5 Manage the IT Investment</i> .....   | 67  |
| 3.8  | <i>PO8 Manage Quality</i> .....   | 72  |
| 3.9  | <i>AI1 Identify Automated Solutions</i> .....                                     | 79  |
| 3.10 | <i>AI2 Acquire and Maintain Application Software</i> .. ..                        | 87  |
| 3.11 | <i>AI3 Acquire and Maintain Technology Infrastructure</i> .....                   | 100 |
| 3.12 | <i>DS3 Manage Performance and Capacity</i> .....                                  | 106 |
| 3.13 | <i>DS5 Ensure Systems Security</i> .....  | 113 |
| 3.14 | <i>DS9 Manage the Configuration</i> .....   | 124 |
| 3.15 | <i>DS11 Manage Data</i> .....   | 130 |
| 3.16 | <i>DS12 Manage the Physical Environment</i> .....                                 | 138 |
|      | BAB IV KESIMPULAN DAN SARAN.....  | 146 |
| 4.1  | Kesimpulan.....   | 146 |
| 4.2  | Saran.....  | 147 |
|      | DAFTAR PUSTAKA.....   | 148 |

## DAFTAR GAMBAR

|   |     |
|---|-----|
| Gambar 1. Model audit sistem.....                                       | 16  |
| Gambar 2. Siklus sistem COBIT4.1.....                                   | 19  |
| Gambar 3. <i>Business and Control Objectives</i> .....                  | 23  |
| Gambar 4. <i>Goals &amp; Metrics Framework</i> .....                    | 24  |
| Gambar 5. Tampilan <i>feedback user</i> ( <i>P02</i> ).....             | 57  |
| Gambar 6. Tampilan aplikasi ORACLE ( <i>P02</i> ).....                  | 58  |
| Gambar 7. <i>ERD SAP</i> modul <i>marketing</i> ( <i>P02</i> ).....     | 59  |
| Gambar 8. <i>Goals &amp; Metrics P02</i> .....                          | 60  |
| Gambar 9. Tampilan OS <i>LINUX Fedora 7</i> ( <i>P03</i> ).....         | 63  |
| Gambar 10. Tampilan aplikasi ORACLE ( <i>P03</i> ).....                 | 63  |
| Gambar 11. Konfigurasi setting aplikasi SAP ( <i>P03</i> ).....         | 64  |
| Gambar 12. <i>SOP IT</i> .....  | 65  |
| Gambar 13. <i>Goals &amp; Metrics P03</i> .....                         | 66  |
| Gambar 14. <i>Lay out ruang MIS</i> ( <i>P05</i> ).....                 | 69  |
| Gambar 15. <i>Goals &amp; Metrics</i> ( <i>P05</i> ).....               | 71  |
| Gambar 16. <i>ISO 9001:2008</i> ( <i>P08</i> ).....                     | 74  |
| Gambar 17. Tampilan <i>user approve</i> ( <i>P08</i> ).....             | 75  |
| Gambar 18. Jadwal pelatihan badan <i>MIS</i> ( <i>P08</i> ) .....       | 76  |
| Gambar 19. <i>Goals &amp; Metrics</i> ( <i>P08</i> ).....               | 78  |
| Gambar 20. <i>ERD SAP</i> modul <i>marketing</i> ( <i>A1/1</i> ).....   | 81  |
| Gambar 21. Analisis resiko ( <i>A1/1</i> ).....                         | 82  |
| Gambar 22. Struktur organisasi badan <i>MIS</i> ( <i>A1/1</i> ).....    | 83  |
| Gambar 23. Form surat permintaan kerja ( <i>A1/1</i> ).....             | 84  |
| Gambar 24. <i>Goals &amp; Metrcis A1/1</i> .....                        | 85  |
| Gambar 25. <i>ERD SAP</i> modul <i>marketing</i> ( <i>A1/2</i> ).....   | 88  |
| Gambar 26. Tampilan aplikasi <i>prototype SAP</i> ( <i>A1/2</i> ).....  | 89  |
| Gambar 27. Rencana kerja tim <i>MIS</i> ( <i>A1/2</i> ).....            | 90  |
| Gambar 28. Tampilan akses <i>user</i> ( <i>A1/2</i> ). ....             | 91  |
| Gambar 29. Konfigurasi <i>setting</i> aplikasi SAP ( <i>A1/2</i> )..... | 92  |
| Gambar 30. <i>ERD marketing 2</i> ( <i>A1/2</i> ).....                  | 93  |
| Gambar 31. <i>User approve</i> ( <i>A1/2</i> ).....                     | 94  |
| Gambar 32. <i>ISO 9001:2008</i> ( <i>A1/2</i> ).....                    | 95  |
| Gambar 33. <i>Job description</i> badan <i>MIS</i> ( <i>A1/2</i> )..... | 96  |
| Gambar 34. Jadwal <i>maintenance database</i> ( <i>A1/2</i> ).....      | 97  |
| Gambar 35. <i>Goals &amp; Metrics A1/2</i> .....                        | 98  |
| Gambar 36. Jadwal <i>maintenance switch</i> ( <i>A1/3</i> ).....        | 101 |

|   |     |
|---|-----|
| Gambar 37. Tampilan OS <i>LINUX fedora 7 (A/3)</i> .....                    | 102 |
| Gambar 38. Jadwal <i>maintenance (A/3)</i> .....                            | 103 |
| Gambar 39. Dokumentasi resiko lingkungan ( <i>A/3</i> ).....                | 104 |
| Gambar 40. Goals & Metrics <i>A/3</i> .....                                 | 105 |
| Gambar 41. Kapasitas kinerja sistem SAP modul marketing ( <i>DS3</i> )..... | 108 |
| Gambar 42. Dokumentasi target <i>MIS</i> periode 2010 ( <i>DS3</i> ).....   | 109 |
| Gambar 43. Rencana kerja badan <i>MIS</i> .....                             | 110 |
| Gambar 44. Form <i>user approve (DS3)</i> .....                             | 110 |
| Gambar 45. <i>Reply reporting (DS3)</i> .....                               | 111 |
| Gambar 46. <i>Goals &amp; Metrics DS3</i> .....                             | 112 |
| Gambar 47. Enkripsi <i>account user (DS5)</i> .....                         | 115 |
| Gambar 48. Jadwal <i>backup &amp; maintenance (DS5)</i> .....               | 116 |
| Gambar 49. <i>Job description</i> badan <i>MIS (DS5)</i> .....              | 117 |
| Gambar 50. <i>Alert</i> kesalahan <i>input user (DS5)</i> .....             | 118 |
| Gambar 51. Dokumentasi resiko ( <i>DS5</i> ). .....                         | 119 |
| Gambar 52. Tampilan OS <i>LINUX Fedora 7 (DS5)</i> .....                    | 120 |
| Gambar 53. <i>Tools backup database (DS5)</i> .....                         | 120 |
| Gambar 54. Enkripsi <i>IP address</i> .....                                 | 121 |
| Gambar 55. Tampilan akses <i>user</i> .....                                 | 122 |
| Gambar 56. <i>Goals &amp; Metrics DS5</i> .....                             | 123 |
| Gambar 57. <i>SOP IT (DS9)</i> .....  | 126 |
| Gambar 58. <i>SOP IT 2 (DS9)</i> .....                                      | 127 |
| Gambar 59. <i>SOP IT 3 (DS9)</i> .....                                      | 128 |
| Gambar 60. <i>Goals &amp; Metrics DS9</i> .....                             | 129 |
| Gambar 61 <i>ERD SAP modul marketing (DS11)</i> . .....                     | 132 |
| Gambar 62. Kapastias <i>table record (DS11)</i> .....                       | 133 |
| Gambar 63. Tampilan <i>ORACLE (DS11)</i> .....                              | 133 |
| Gambar 64. <i>Tools backup database (DS11)</i> .....                        | 134 |
| Gambar 65. <i>SOP IT (DS11)</i> .....                                       | 135 |
| Gambar 66. <i>ISO 9001:2008 (DS11)</i> .....                                | 136 |
| Gambar 67. <i>Goals &amp; Metrics DS11</i> .....                            | 137 |
| Gambar 68. <i>Lay out ruang MIS (DS12)</i> .....                            | 140 |
| Gambar 69. Analisis lingkungan <i>IT (DS12)</i> .....                       | 141 |
| Gambar 70. <i>SOP IT (DS12)</i> .....                                       | 142 |
| Gambar 71. <i>ISO IT 2 (DS12)</i> .....                                     | 143 |
| Gambar 72. <i>Goals &amp; Metrics DS12</i> .....                            | 144 |

## DAFTAR TABEL

|  |     |
|--|-----|
| Tabel I. <i>PO2 Define the Information Architecture</i> .....              | 26  |
| Tabel II. <i>PO3 Determine Technological Direction</i> .....               | 28  |
| Tabel III. <i>PO5 Manage the IT Investment</i> .....                       | 31  |
| Tabel IV. <i>PO8 Manage Quality</i> .....                                  | 33  |
| Tabel V. <i>AI1 Identify Automated Solutions</i> .....                     | 36  |
| Tabel VI. <i>AI2 Acquire and Maintain Application Software</i> .....       | 38  |
| Tabel VII. <i>AI3 Acquire and Maintain Technology Infrastructure</i> ..... | 40  |
| Tabel VIII. <i>DS3 Manage Performance and Capacity</i> .....               | 42  |
| Tabel IX. <i>DS5 Ensure Systems Security</i> .....                         | 44  |
| Tabel X. <i>DS9 Manage the Configuration</i> .....                         | 47  |
| Tabel XI. <i>DS11 Manage Data</i> .....                                    | 49  |
| Tabel XII. <i>DS12 Manage the Physical Environment</i> .....               | 50  |
| Tabel XIII. Status <i>PO2</i> .....  | 61  |
| Tabel XIV. Status <i>PO3</i> .....   | 67  |
| Tabel XV. Status <i>PO5</i> .....  | 72  |
| Tabel XVI. Status <i>PO8</i> .....   | 79  |
| Tabel XVII. Status <i>AI1</i> .....  | 86  |
| Tabel XVIII. Status <i>AI2</i> .....                                       | 99  |
| Tabel XIX. Status <i>AI3</i> .....   | 106 |
| Tabel XX. Status <i>DS3</i> .....  | 113 |
| Tabel XXI. Status <i>DS5</i> .....   | 124 |
| Tabel XXII. Status <i>DS9</i> .....  | 130 |
| Tabel XXIII. Status <i>DS11</i> .....                                      | 138 |
| Tabel XXIV. Status <i>DS12</i> .....                                       | 145 |

## DAFTAR LAMPIRAN

|     |  |      |
|-----|--|------|
| 1.A | LAMPIRAN-LAMPIRAN BUKTI AUDIT.....             | A.1  |
| A.  | SOP departemen MIS.....                        | A.1  |
| B.  | Menu aplikasi SAP modul <i>marketing</i> ..... | A.5  |
| C.  | Akses <i>User</i> .....                        | A.6  |
| D.  | ORACLE.....                                    | A.7  |
| E.  | Enkripsi <i>Account user</i> .....             | A.7  |
| F.  | Enkripsi <i>IP Address</i> .....               | A.8  |
| G.  | ERD sistem SAP modul <i>marketing</i> .....    | A.9  |
| H.  | Konfigurasi <i>setting</i> aplikasi SAP.....   | A.10 |
| I.  | <i>Tools backup database</i> .....             | A.10 |
| J.  | Struktur Organisasi.....                       | A.11 |
| K.  | <i>Job Description</i> .....                   | A.13 |
| L.  | Jadwal <i>maintenance &amp; backup</i> .....   | A.17 |
| M.  | Jadwal <i>maintenance switch</i> .....         | A.17 |
| N.  | Jadwal pelatihan.....                          | A.18 |
| O.  | Rencana kerja tim MIS periode 2010.....        | A.18 |
| P.  | Target tim MIS.....                            | A.19 |
| Q.  | Kapasitas kinerja sistem.....                  | A.20 |
| R.  | <i>User report</i> .....                       | A.21 |
| S.  | <i>User Approve</i> .....                      | A.21 |
| T.  | Feedback <i>user reply</i> .....               | A.22 |
| U.  | Surat permintaan kerja.....                    | A.23 |
| V.  | Alert kesalahan input <i>user</i> .....        | A.24 |
| W.  | Analisa resiko.....                            | A.25 |
| X.  | <i>Lay out ruang MIS</i> .....                 | A.26 |
| Y.  | ISO 9001:2008.....                             | A.27 |
| 1.B | LEMBAR WAWANCARA.....                          | B.1  |