

# DAFTAR ISI

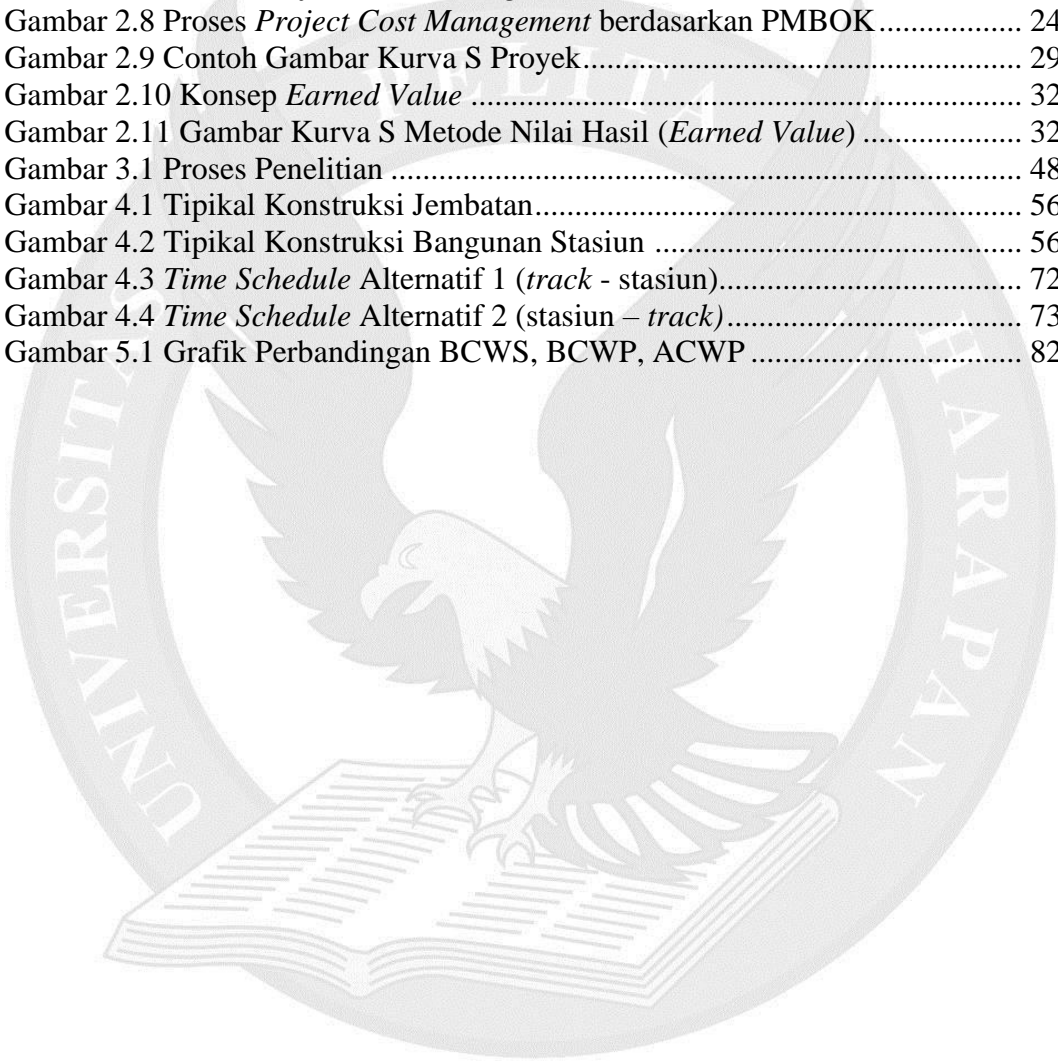
halaman

|  |      |
|--|------|
| HALAMAN JUDUL  |      |
| PERNYATAAN UNGGAH TUGAS AKHIR                          |      |
| PERNYATAAN KEASLIAN KARYA TUGAS AKHIR                  |      |
| PERSETUJUAN DOSEN PEMBIMBING TUGAS AKHIR               |      |
| PERSETUJUAN TIM PENGUJI TUGAS AKHIR                    |      |
| ABSTRAK .....  | vi   |
| <i>ABSTRACT</i> .....                                  | vii  |
| KATA PENGANTAR .....                                   | viii |
| DAFTAR ISI .....                                       | x    |
| DAFTAR GAMBAR .....                                    | xii  |
| DAFTAR TABEL .....                                     | xiii |
| DAFTAR LAMPIRAN .....                                  | xiv  |
| <br>   |      |
| BAB 1 PENDAHULUAN .....                                | 1    |
| 1.1 Latar Belakang .....                               | 1    |
| 1.2 Permasalahan Penelitian .....                      | 6    |
| 1.3 Tujuan Penelitian .....                            | 7    |
| 1.4 Manfaat Penelitian .....                           | 8    |
| 1.5 Batasan Penelitian .....                           | 8    |
| 1.6 Sistematika Penulisan .....                        | 9    |
| <br>   |      |
| BAB 2 TINJAUAN PUSTAKA .....                           | 11   |
| 2.1 Manajemen Proyek .....                             | 11   |
| 2.2 Proyek Konstruksi .....                            | 13   |
| 2.3 Proyek Konstruksi Kereta Api .....                 | 17   |
| 2.4 Pengendalian Proyek .....                          | 20   |
| 2.4.1. CMBOK .....                                     | 22   |
| 2.4.2. PMBOK .....                                     | 22   |
| 2.5 Pengendalian Waktu .....                           | 25   |
| 2.6 Pengendalian Biaya .....                           | 26   |
| 2.7 Kurva S .....                                      | 28   |
| 2.8 Metode Nilai Hasil ( <i>Earned Value</i> ) .....   | 29   |
| 2.9 Analisis Varians .....                             | 33   |
| 2.9.1. <i>Schedule Variance</i> (SV) .....             | 33   |
| 2.9.2. <i>Cost Variance</i> (CV) .....                 | 34   |
| 2.9.3. Analisis Varian Terpadu .....                   | 35   |
| 2.10 Analisis <i>Performance Index</i> .....           | 37   |
| 2.10.1. <i>Schedule Performance Index</i> (SPI) .....  | 36   |
| 2.10.2. <i>Cost Performance Index</i> (CPI) .....      | 37   |
| 2.11 Analisis Estimasi Penyelesaian Akhir Proyek ..... | 39   |
| 2.11.1. <i>Time Estimated</i> (TE) .....               | 39   |
| 2.11.2. <i>Estimated at Completion</i> (EAC) .....     | 40   |
| 2.12 Hasil Penelitian Relevan .....                    | 41   |

|  |        |
|--|--------|
| BAB 3 METODOLOGI PENELITIAN.....   | 48     |
| 3.1 Proses Penelitian .....  | 48     |
| 3.2 Instrumen Penelitian .....   | 52     |
| 3.2.1. Data Penelitian .....   | 51     |
| 3.2.2. Alat Ukur.....  | 51     |
| 3.3 Metode Penelitian .....  | 53     |
| <br>BAB 4 ANALISIS DAN PEMBAHASAN .....  | <br>54 |
| 4.1 Data Umum Proyek .....   | 54     |
| 4.2 Lingkup Kajian (Permasalahan 1) .....                                      | 56     |
| 4.3 Analisis Metode Nilai Hasil ( <i>Earned Value</i> ) (Permasalahan 2) ..... | 57     |
| 4.3.1. Analisis <i>Budget Cost of Work Schedule</i> (BCWS).....                | 54     |
| 4.3.2. Analisis <i>Budget Cost of Work Performance</i> (BCWP).....             | 55     |
| 4.3.3. Analisis <i>Actual Cost of Work Performance</i> (ACWP) .....            | 57     |
| 4.4 Analisis Varians (Permasalahan 3) .....                                    | 61     |
| 4.4.1. Analisis <i>Schedule Variance</i> (SV).....                             | 58     |
| 4.4.2. Analisis <i>Cost Variance</i> (CV) .....                                | 60     |
| 4.5 Analisis <i>Performance Index</i> (Permasalahan 4) .....                   | 65     |
| 4.5.1. Analisis <i>Schedule Performance Index</i> (SPI) .....                  | 61     |
| 4.5.2. Analisis <i>Cost Performance Index</i> (CPI) .....                      | 63     |
| 4.6 Analisis Estimasi Akhir (Permasalahan 5) .....                             | 68     |
| 4.6.1. <i>Time Estimated</i> (TE) .....  | 65     |
| 4.6.2. <i>Estimated at Completion</i> (EAC) .....                              | 66     |
| 4.7 Analisis Perbandingan Metode Konstruksi (Permasalahan 6).....              | 71     |
| 4.8 Rekomendasi Perbaikan Kajian (Permasalahan 7) .....                        | 78     |
| <br>BAB 5 KESIMPULAN DAN SARAN .....   | <br>81 |
| 5.1 Kesimpulan .....   | 81     |
| 5.2 Saran .....  | 85     |
| <br>DAFTAR PUSTAKA .....   | <br>82 |
| LAMPIRAN .....   | 85     |
| TURNITIN .....   | 88     |

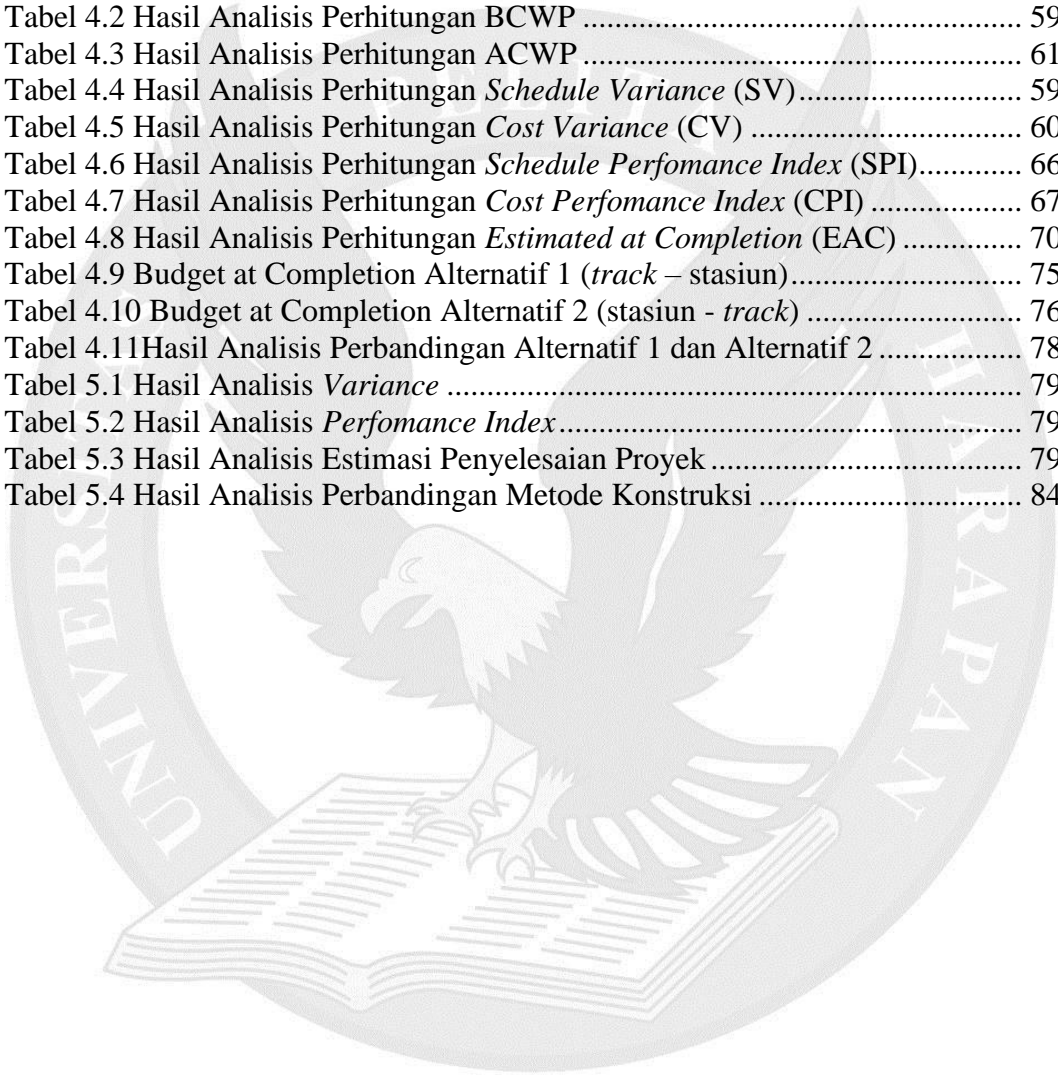
## DAFTAR GAMBAR

|   | halaman |
|---|---------|
| Gambar 1.1 Jaringan Jalur Kereta Api Pulau Jawa.....                        | 2       |
| Gambar 2.1 Hubungan <i>Triple Constrain</i> .....                           | 14      |
| Gambar 2.2 Kereta Api Penumpang .....                                       | 18      |
| Gambar 2.3 Kereta Api Barang.....   | 18      |
| Gambar 2.4 Stasiun Kereta Api .....   | 19      |
| Gambar 2.5 Jalur Kereta Api .....   | 19      |
| Gambar 2.6 Siklus Perencanaan dan Pengendalian Proyek.....                  | 21      |
| Gambar 2.7 Proses <i>Project Time Management</i> berdasarkan PMBOK .....    | 23      |
| Gambar 2.8 Proses <i>Project Cost Management</i> berdasarkan PMBOK.....     | 24      |
| Gambar 2.9 Contoh Gambar Kurva S Proyek.....                                | 29      |
| Gambar 2.10 Konsep <i>Earned Value</i> .....                                | 32      |
| Gambar 2.11 Gambar Kurva S Metode Nilai Hasil ( <i>Earned Value</i> ) ..... | 32      |
| Gambar 3.1 Proses Penelitian .....  | 48      |
| Gambar 4.1 Tipikal Konstruksi Jembatan.....                                 | 56      |
| Gambar 4.2 Tipikal Konstruksi Bangunan Stasiun .....                        | 56      |
| Gambar 4.3 <i>Time Schedule</i> Alternatif 1 ( <i>track</i> - stasiun)..... | 72      |
| Gambar 4.4 <i>Time Schedule</i> Alternatif 2 (stasiun – <i>track</i> )..... | 73      |
| Gambar 5.1 Grafik Perbandingan BCWS, BCWP, ACWP .....                       | 82      |



## DAFTAR TABEL

|   | halaman |
|---|---------|
| Tabel 2.1 Analisis Varians Terpadu.....   | 36      |
| Tabel 2.2 Daftar Jurnal Penelitian Relevan.....                                   | 42      |
| Tabel 2.3 Daftar Jurnal Penelitian Relevan (Lanjutan).....                        | 43      |
| Tabel 2.4 Daftar Jurnal Penelitian Relevan (Lanjutan).....                        | 44      |
| Tabel 2.5 Daftar Jurnal Penelitian Relevan (Lanjutan).....                        | 45      |
| Tabel 2.6 Daftar Jurnal Penelitian Relevan (Lanjutan).....                        | 46      |
| Tabel 4.1 Hasil Analisis Perhitungan BCWS .....                                   | 58      |
| Tabel 4.2 Hasil Analisis Perhitungan BCWP .....                                   | 59      |
| Tabel 4.3 Hasil Analisis Perhitungan ACWP .....                                   | 61      |
| Tabel 4.4 Hasil Analisis Perhitungan <i>Schedule Variance</i> (SV).....           | 59      |
| Tabel 4.5 Hasil Analisis Perhitungan <i>Cost Variance</i> (CV) .....              | 60      |
| Tabel 4.6 Hasil Analisis Perhitungan <i>Schedule Performance Index</i> (SPI)..... | 66      |
| Tabel 4.7 Hasil Analisis Perhitungan <i>Cost Performance Index</i> (CPI) .....    | 67      |
| Tabel 4.8 Hasil Analisis Perhitungan <i>Estimated at Completion</i> (EAC) .....   | 70      |
| Tabel 4.9 Budget at Completion Alternatif 1 ( <i>track – stasiun</i> ).....       | 75      |
| Tabel 4.10 Budget at Completion Alternatif 2 ( <i>stasiun - track</i> ) .....     | 76      |
| Tabel 4.11 Hasil Analisis Perbandingan Alternatif 1 dan Alternatif 2 .....        | 78      |
| Tabel 5.1 Hasil Analisis <i>Variance</i> .....                                    | 79      |
| Tabel 5.2 Hasil Analisis <i>Performance Index</i> .....                           | 79      |
| Tabel 5.3 Hasil Analisis Estimasi Penyelesaian Proyek .....                       | 79      |
| Tabel 5.4 Hasil Analisis Perbandingan Metode Konstruksi .....                     | 84      |



## DAFTAR LAMPIRAN

| Lampiran A                       | halaman |
|----------------------------------|---------|
| Rencana Anggaran Biaya.....      | A-1     |
| Kurva S (Original Kontrak) ..... | A-2     |

