**Colorado Technical University**

**Course:** MATH366 – Probability and Statistics

#### Unit 8 Part 15 Readings: Project Management Charts

**Project Management Charts**

Charts are used in project management to help in planning and to monitor progress

These include:

**Gantt charts**

Created by Henry Gantt in the early 1900s so people could see a project’s status at a

glance

Is a bar chart

List the tasks to be performed on the vertical axis

Time intervals are graphed on the horizontal axis

The beginning location of the bar specifies the time a task can start

The end of the bar indicates the completion of the task

The length of the bar indicates how long a task will last

Can be used to show current schedule status using percent-complete shadings

Can include a vertical "TODAY" line

**Predecessors** specify the relationships between project tasks and indicate when a

task should begin or end in relation to other tasks

By definition, the predecessor is the first task; it controls the start or end date for all

related successor tasks

The **successor**, by contrast, is the task whose start or end date is controlled by the

predecessor

A **dependency** is the relationship between predecessor and successor tasks

**Progress Gantt chart**

Tasks are shaded in proportion to the degree of their completion: a task that is 60%

complete would be 60% shaded, starting from the left

A vertical line is drawn at the time index when the progress Gantt chart is created,

and this line can then be compared with shaded tasks

If everything is on schedule, all task portions left of the line will be shaded, and all

task portions right of the line will not be shaded

This provides a visual representation of how the project and its tasks are ahead or

behind schedule

**Linked Gantt chart**

Includes lines indicating the dependencies between tasks

Quickly become cluttered in all but the simplest cases

Critical path network diagrams are superior to visually communicate the relationships

between tasks

Gantt chart software typically provides mechanisms to link task dependencies,

although this data may or may not be visually represented

Gantt charts are often preferred over precedence diagrams because they are easily

interpreted without training, whereas precedence diagrams require training to

interpret

Gantt charts and precedence diagrams are often used for the same project, both being

generated from the same data by a software application

**Precedence Diagram Method (PDM) charts**

**Program Evaluation and Review Technique (PERT)** charts

Developed by Booz Allen Hamilton and the U.S. Navy in the 1950s to help manage

complex projects

Is a flow chart or network logic diagram

Boxes indicate tasks

Arrows show which tasks must be done before the next task can start

Times are shown using numbers, not lengths of arrows

Includes up to three estimates of the duration of each activity (optimistic, likelyand

pessimistic times)

Can include responsible party and completion percentage

**Critical Path Method (CPM)** charts

Developed in the late 1950s by Morgan R. Walker of DuPont and James E. Kelley Jr.

of Remington Rand

Used for the first time in 1966 for the construction of the World Trade Center Twin

Towers in New York City

Is a flow chart or network logic diagram

Boxes indicate tasks

Arrows show which tasks must be done before the next task can start

Times are shown using numbers, not lengths of arrows

Only a single estimate of the duration of each activity is included

**Activity on Node (AON)** charts

Is a flow chart or network logic diagram (a type of PERT chart)

Pies (nodes) indicate tasks

Arrows show which tasks must be done before the next task can start

Times are shown using numbers in pie slices, not lengths of arrows

Nodes can specify earliest start date, latest start date, earliest finish time, latest finish

time and duration