

Microsoft EPM – Analysis of Strong & Weak Points compared to PSNext

Overview of MS EPM

MS EPM comprises of a cumbersome and rather complex architecture. This leads to one of the main problem with the system - the complex relationship between MS Project Professional (MSP, the client) and the PWA (Project Web Access, the server) component. This creates a level of complexity which is unknown in PSNext. MS EPM is not considered an easy system to implement or use.

Although MS EPM is generally a feature rich system, it has some glaring deficiencies.

EPM Strong Points

Off-line planning is possible using MSP (Microsoft Project). (This will be matched by PSNext in Version 2 due for release in June / July 2006.)

Off-line work involving some aspects of PWA (Project Web Access) is possible. Such as capturing of timesheets and doing Status Reports.

Risks and Issues contain extensive number of data fields which can be filled in. Each Risk and Issue can be linked to multiple tasks.

Document management (via Sharepoint Services) is strong. Contains libraries and ability to set up templates.

The 'Project Work Space' is a web page for each project. All project info is available from this location, such as announcements, issues, risks, documents, contacts, and other info.

Can link to project documents from the PWA Gantt chart as well as from the Project Work Space.

A system of text based status reports. A PM may request status reports from team members which must be filled under headings specified by the PM. This may be useful where face-to-face meetings are not possible.

An extensive system of alerts using e-mail. However, EPM implementers recommend that these alerts be kept to a minimum due to the real danger that the recipients do not bother to read any EPM generated e-mail.

Overview of EPM Weak Points

Although EPM is feature rich in some areas (such as documents, risk and issues), it lacks essential features in other areas (such as reporting, skills management and resource analysis).

There is a confusing spread of functionality between MSP and PWA. For example, many enterprise functions are found in MSP (such as creating enterprise fields, deeply hidden under Tools) while other enterprise functions are found in PWA in the Admin Page (under the heading called 'Manage Enterprise features'). Similarly, resources are linked to an organisational unit (RBS) in MSP (also deeply hidden), while the same resources are linked to Groups inside PWA.

The web component, PWA has a totally different interface compared to MSP. PWA looks like a series of HTML pages in contrast to the windows look of MSP.

Work Packages are not supported. Thus it is not possible for multiple managers to modify the same project at the same time.

No effective skill management. There is no built in skill fields linked to resources. This combined with complex and limited customization functionality, makes effective skills reporting very weak. In addition EPM does not support the use of Generic resources. These are entered as normal resources, thus making proper analysis very difficult or impossible.

Human and Non-human resources are stored in the same table. Due to different characteristics of materials, vendors, equipment, etc. makes management of these items more complex.

Approved future absent periods (such as Leave or Training) has no influence on the project schedule.

EPM has limited customization abilities due to the fact that no Enterprise level formulas can be created or displayed in the reports (ie. the Cube). Enhancement in this area requires extensive application programming.

EPM does not support true publishing. Although the term publishing is freely used, this is merely saving the project to the enterprise server.

Project managers are able to view resource utilization in PWA. However, after making changes to the project in MSP, there is a cumbersome process of re-publishing the project, switching to PWA and refreshing the screen before the PM is able to view the effects of the change. All of these steps take time when using live data. This is in contrast to an instant update in PSNext due to memory resident processes.

Due to the large number of features available in MSP which are not linked to the role of the project manager, the learning curve is unnecessarily long for project managers (PMs). Making this learning curve more demanding are the items users need to remember when linking to the server. In contrast PSNext has a streamlined Planner role which contains all the tools needed by the PM.

Detail Comparison of Features between MS EPM and PSNext

See remainder of document.

<i>Description</i>	<i>EPM</i>	<i>PSnext</i>
<i>Pricing</i>	<p>Pricing is very complicated. Even the distributors cannot calculate the pricing for the larger customers. They have to ask MS everytime. ("Need a Masters degree to understand the pricing")</p> <p>MSP Professional includes a CAL for PWA.</p>	<p>Pricing is based on Tokens which can easily be calculated by clients using a spreadsheet.</p>
	<p>A CAL (Client Access License) is required for all users to access PWA.</p>	

Description	EPM	PSnext
Training	3 days MS Project 2 days PWA (except Admin) 2 days PWA Admin. Total : 7 days.	1 day basic initial for PMs 1 day follow up for PMs. 1 day Admin. 1 day Report writer. Total: 4 days.
APIs	Not free. Due to limitations of the Cube to handle custom formulas, the API are free for the Cube (called Cube Extenders)	Free. No APIs needed to generate reports sophisticated reports.
Customization	Unable to add customized Project fields in the stand-alone MSP. It is possible to add Task and Resource fields, but not project fields. However, when adding Enterprise fields, it is possible to add up to 30 Outline codes at the project level.	An unlimited number of customized fields may be added on any table, including Project, Task, Resource, Assignment, Links, Skills, Job Categories, Issues, Task steps, Timesheets, Cost items, and more...
	<p>Only 30 text based Outline code type fields may be added as Enterprise fields. These fields allow hierarchical structure of data and supports picklists.</p> <p>Inside MSP (not Enterprise) the following types of fields may be customized:</p> <ul style="list-style-type: none"> • Cost (limited to 10) • Date (limited to 10) • Duration (limited to 10) • Start dates (limited to 10) • Finish dates (limited to 10) • Yes / No (limited to 20) • Number (limited to 20) • Text (limited to 30) 	<p>A rich variety of custom fields may be added, including (all fields are unlimited) :</p> <ul style="list-style-type: none"> • cost rate (R500/hr) • cost (R10 000-00) • cost per unit (R50 per meter) • date (15 Mar 2006) • decimal (123.45) • duration (15d) • effort (20 manhours) • effort rate (8 mhours per day) • integer • text (all text fields are hierarchical outline fields. Also supports picklists) • time (time of day)

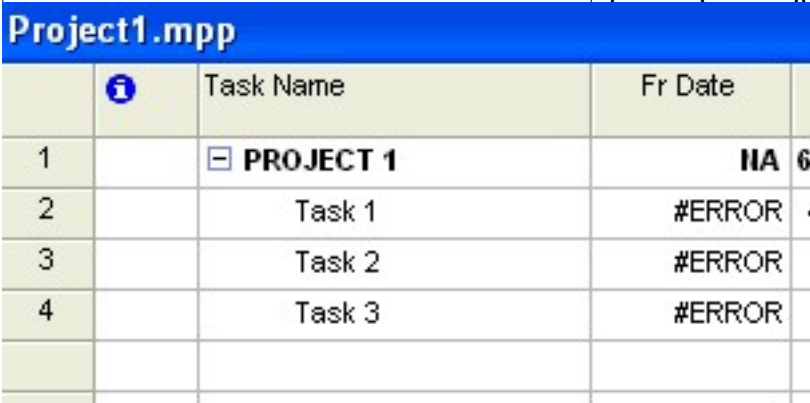
Description	EPM	PSnext
		<ul style="list-style-type: none"> • yes/no (Boolean) • URL (hyperlink to Internet address)
	No formulas may be created at Enterprise level. This limitation severely restricts the ability of EPM to display user-defined information.	An unlimited number of formulas may be added for each of the above tables.
	The same fields mentioned above is shared for use by formulas. Thus, for example, a total of 10 date fields are available which may consist of 4 user-input fields and 6 formulas.	An unlimited number of formulas may be added for each of the above tables.
	<p>No or limited error checking is done when creating the formulas. Thus if a mistake is made MSP will display a column containing #Error.</p> <p>No Test button is provided.</p> 	<p>The formula creation screen may not be closed unless the formula passes error checking.</p> <p>A Test button is provided.</p> <p>If an error is found, a message will give an error.</p>
	Unable to link data across tables. This is a severe limitation as it is frequently necessary to set up custom formulas which picks up data from other tables.	No restriction. PSNext formulas can access data from any other table.
	Unable to customize the Assignment data. This is a severe limitation as the Assignment table contains the source data of all the hours and costs of the	PSNext provides full customization of the Assignment table. Any data item or formula can be

Figure 1: Bad error messages when creating formulas. 'Fr Date' in the image above is a MSP formula containing an unknown error. No description describing the error is provided.

Description	EPM	PSnext
	resource assigned to a task. Customer often require customization on this table.	added. In addition, due to cross table links, this data is visible to tasks or projects.
	Enterprise custom resource fields cannot be displayed in the Resource spreadsheet inside MSP. To display these fields, you need to double click on the resource to display the 'Resource Information' dialog box. Then select the 'Custom Fields' tab'.	All data may be displayed in spreadsheet format. This makes it easy to copy and paste data across resources, projects or tasks.
Set-Up Issues	Due to the complex architecture of EPM involving a variety of different components, such as MSP, PWA, OLAP Cube, Sharepoint services, Outlook and SQL Server, set-up is a complex issue which must be performed by Microsoft experts.	PSNext consists of only two main components, the 1) application server and 2) the database. There is no workstation installation as components are automatically downloaded to the workstation. Documents and Issues/Risks are integrated in PSNext. No installation required.
Ease of Use issues	EPM is not role based. A user has to access multiple areas in order to perform his work. For example, a project manager would need to <ul style="list-style-type: none"> • use MSP to create the project, • he needs to access the 'Projects Page' in PWA to view project data, • he would also need to switch to the 'Resources Page' to view resource utilization across all projects, • he would then have to access the 'Updates Page' in order to approve work done on projects. Due to the totally different architectures of MSP and PWA, these systems have	The role based nature of PSNext ensure that all the tools a user needs are grouped together. <ul style="list-style-type: none"> • For example, all the tools the project manager needs is available in the 'Planner' component. • PSNext comprises a single unified architecture.

Description	EPM	PSnext
	completely different user interfaces.	
	<p>In MSP it is not possible to select more than one project at a time to open.</p> <p>To some extent this is alleviated by saving a group of projects as a 'Workspace'. The Workspace is then opened, thus opening all projects listed in the Workspace. It is not possible to selectively open projects in a Workspace.</p>	<p>PSNext allows multiple projects to be opened at the same time.</p> <p>PSNext also allows a selection of a Portfolio which opens all projects in the Portfolio.</p>
	Single undo. This is a severe irritation as a user frequently wishes to go back a number of steps.	Unlimited undo.
	Each project is shown in a separate window. Unable to scroll between projects.	All projects are shown in the same window. A very useful scroll button allows scrolling between projects. Important when dealing with multiple projects.
	Due to the lack of a project spreadsheet, it is not intuitive to enter enterprise level project data. You must use 'menu option Project > Project information'. This information cannot be displayed in spreadsheet format in MSP.	
	No project spreadsheet to show a list of projects. A list of projects can be shown by displaying a new window and selecting all projects then summarizing all the tasks. However, this is not a spreadsheet showing project data.	Fully customizable project spreadsheet.
	When linking tasks on the Gantt, you must drop the link onto the successor Gantt bar. This is an irritation as the bar of task you wish to link to is not always visible and you would need to scroll the screen till the bar becomes visible before dropping.	When linking tasks on the Gantt, merely drag vertically down and drop. The successor bar does not have to be visible.

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	Unable to highlight a link on the Network or Gantt chart. This is needed to show the path of a link to better understand the logic.	The link can be marked and then deleted with a click of the delete button.
	When dragging the scroll button, the display is static. The user has to let go of the button before the display updates. This behavior is especially irritating when scrolling the Gantt chart.	All displays are dynamic. Ie. When dragging the scroll button, the display moves dynamically. This makes it easy to find data in a long list, or easy to position the Gantt.
	Almost all windows are of fixed size in MSP as well as in PWA	All windows can be re-sized.
	Another irritating feature is that the mouse scroll button is not always active. You often need to click on a screen before you are able to scroll up or down.	Merely position the mouse over a screen and the mouse scroll button is always active. There is no need to click first.
	Once a project has been saved in the enterprise server, it is not possible to change the name of the project. Even the administrator is unable to change the project name.	Any authorized person may change the project name.
	<p>Another 'ease of use' issue the ease of publishing. EPM does not support true publishing. The process of saving the project on the enterprise server is called publishing.</p> <p>Due to the EPM architecture it is a complex process to publish a project. The Microsoft training manual devotes 10 pages to the issues regarding 'publishing'. These include:</p> <ul style="list-style-type: none"> • Setting up collaboration options (2.5 pages) • Customizing the fields for time (2 pages) • Setting up options for publishing the plan to project server (3.5 pages) • Multiple project manager support 	<p>PSNext supports true publishing. There is a clear distinction between a working project and a published project. Both are saved on the server.</p> <p>To publish a new project, the user simply selects 'File > Save and Publish'.</p>

Description	EPM	PSnext
	options (0.5 page) <ul style="list-style-type: none"> Using the Project Server Spooler (0.5 page) Requesting project progress (1 page). 	

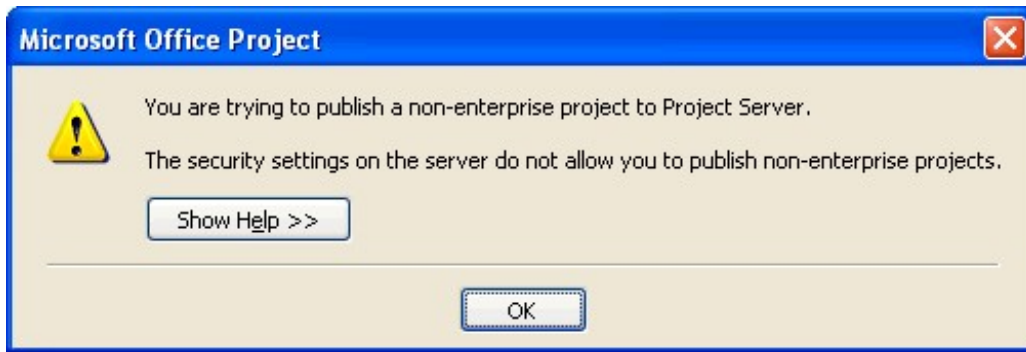
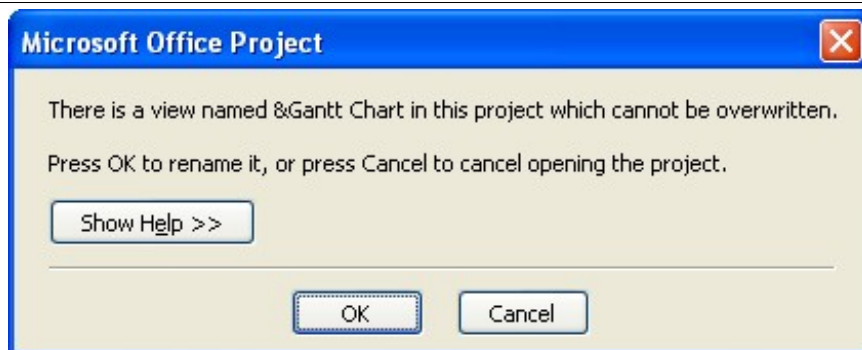
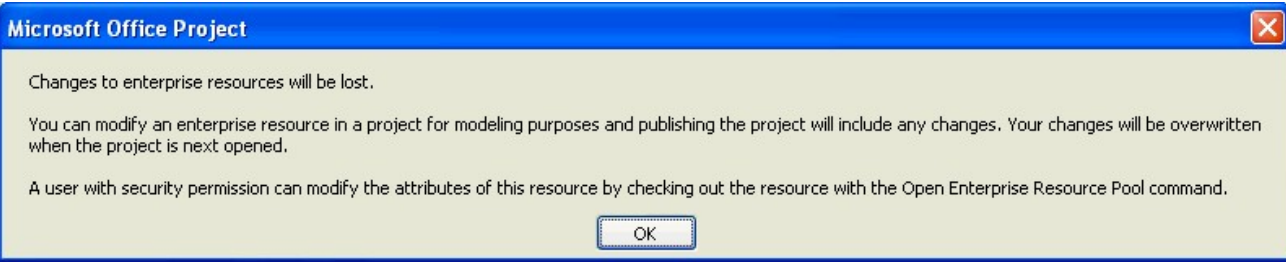


Figure 2: Due to the complex relationship between MSP and EPM, many problems are encountered. Above is an example of a messages when attempting to publish a



Description	EPM	PSnext
		
	<p>The user is not able to customize his/her view in PWA. The columns are set up by Admin.</p>	<p>PSNext has a clever combination of corporate preferences and user preferences.</p>
	<p>Team members can hide tasks in their Tasks Page in PWA. However, there is no easy way to un-hide a task. Once hidden, it stays hidden.</p>	
	<p>It is not possible to assign more than one PM to a project. The person who publishes the project is assumed to be the manager.</p> <p>In the event that a PM is not available, there is a complex procedure to allow another PM to approve his/her tasks.</p>	<p>Each project can have up to three PMs. No assignment is required when the primary PM is not available.</p>
	<p>PMs cannot modify rights to their own projects (unless they are granted access to the the Admin page, which is unlikely).</p>	<p>PMs can be granted permission to change permissions.</p>
	<p>Relatively complex procedure to edit enterprise resources.</p> <p>Before modifying Enterprise resources in MSP, you first need to check out the Resource from the Enterprise pool. Thereafter, you will only be able to edit these checked out resources.</p> <p>If you left out any resources, you need to go back to this menu option (Tools > Enterprise options > Open Enterprise resource pool.) and re-select all the resources you wish to edit. If you check out another resource later, that</p>	<p>Merely go to the Resources component and edit the resource (assuming you have permission to do so).</p>

Description	EPM	PSnext
	resource is shown in its own window making editing difficult.	
Resources	<p>No built-in skills management.</p> <ul style="list-style-type: none"> • In order to link multiple skills to resources, a number of custom Enterprise fields have to be created. These are provide limited functionality as the same skill can appear in more than one field. Also, due to lack of enterprise level formulas, this problem cannot be overcome without application programming. • This is not an easy process, see obscure error message below. • Next you have to close MSP (otherwise the server is not updated). • You then have to open MSP again and then display Enterprise resources (not local resource). • Then insert a for each skill per person the customized fields created above. • Only then are you able to enter skills per resource (while making sure you do not duplicate the same skill across columns). • EPM is effectively unable to report for a particular skill as the same skill name can appear in different columns for different resources. This combined with the inability to include custom formulas in the Cube, makes effective skill very difficult or impossible. 	<ul style="list-style-type: none"> • Simply open the column entitled 'Skills' and select one or more skills per resource. • The built-in Skill analysis makes it simple to analyze the utilization (or anything else) for each skill. • For example: With a click of a button, the total utilization of all people with database skills can be viewed. Then another click will show all resources with all Oracle skills. Another click will show each individual with Oracle skills.

Description

EPM

PSnext

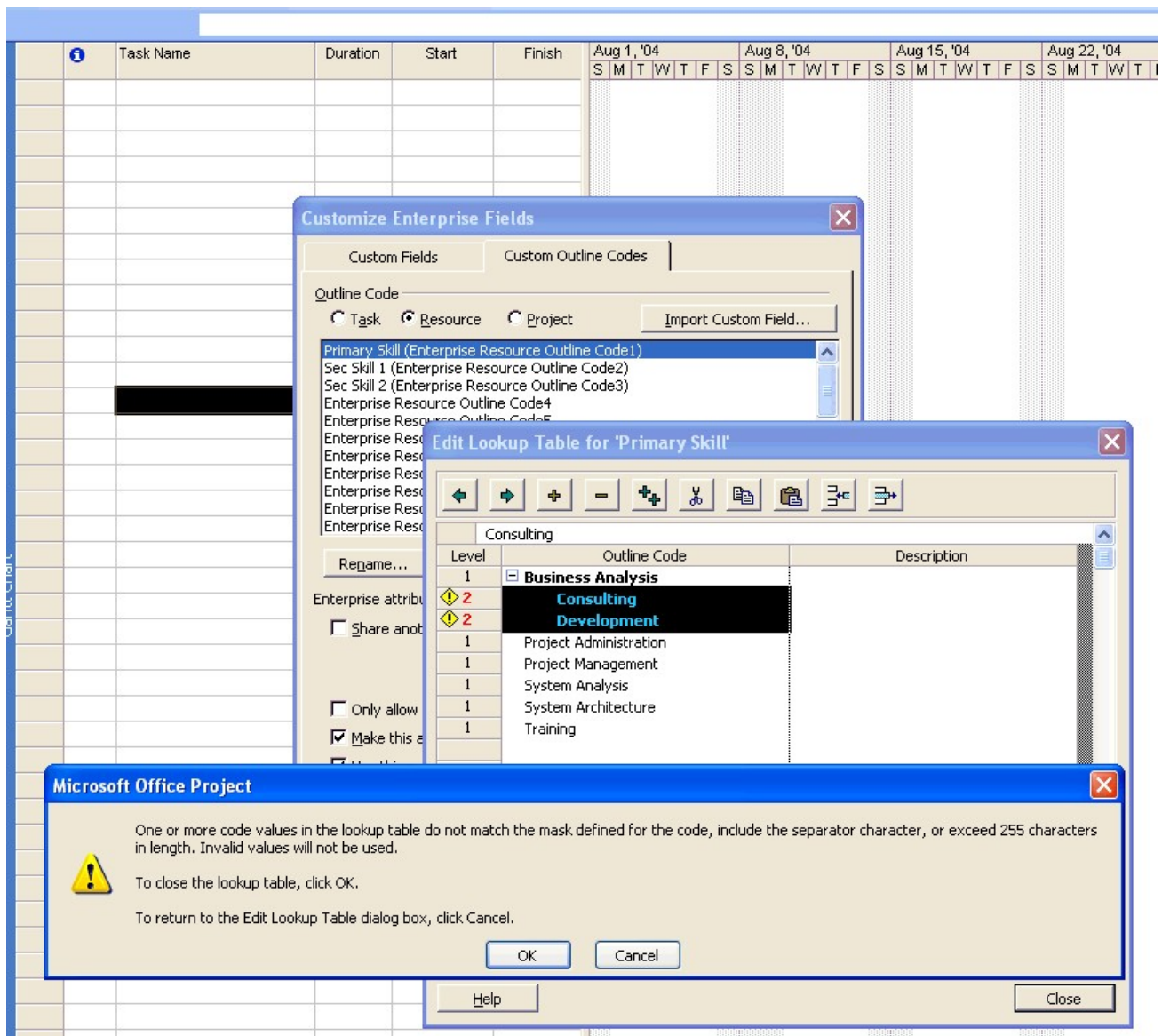


Figure 6: Error message while creating a user defined field in order to handle Skills. EPM does not contain

No built-in Generic resources.
 Generic resource have to be created as a normal resource. In view of the fact that people do not form part of a generic resources, it is not possible to analyse the resource utilization of a generic resource.

PSNext has built-in facilities to handle generic resources in the form of Skills and/or Job Classifications which are linked to a resource.

In order to apply for a future absent period (such as leave or a training course), team members must fill in

PSNext supplies each team member with a view showing two calendars. One

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	<p>hours on an 'Admin Project'.</p> <p>However, these hours have no influence on the project, even after these hours have been approved.</p> <p>Due to the inadequate facilities to handle over-utilized resources, it is a problem to update projects with such absent periods.</p> <p>The only other way the projects can be updated with such absent periods is to run the resource leveller, however, this is not recommended by the lecturer.</p>	<p>for applying for an absent period, and the other showing approved absent periods.</p> <p>After approval, all projects using this resource is automatically updated.</p>
	<p>Inside MSP, substitution of resources by other resources is a complex 5 step process. This process needs a wizard to guide you through 5 screens.</p> <p>However, inside PWA, a similar function is performed much more simply.</p>	<p>It is a simple matter to replace a resource with another.</p>
	<p>In the Resource Page there is some nice functionality to view Resource Utilization. However, this is view only. There is no quick and easy way to make changes to the projects and to view the effects of these changes.</p> <p>If resources are over-utilized, the PM would need to :</p> <ul style="list-style-type: none"> • View the utilization in PWA. • Switch to MSP. • Make changes in MSP. • Publish the project to the project server, ensuring that the relevant assignment information is published. • Refresh the page showing resource utilization and view the result. • All the above steps could be time consuming on a busy server or large projects. According to the lecturer this is a "Painful slow 	<p>By using a split screen, when making changes to a project on the Gantt, the result is instantly visible in the resource utilization graph.</p> <p>Thus leading to very quick and easy resource management.</p>

Description	EPM	PSnext
	process".	
	Rather complex navigation in the Resources Page. Some functions are not intuitive resulting in difficulty to display required data.	
	<p>It is possible to add local resource inside MSP for each project. Thus not all resources have to be defined as enterprise resources.</p> <p>However, there is some complexity when saving the enterprise project as local resources by default will cause 'Spooler errors'. These errors are well known and are discussed in the training manual.</p>	Not applicable as PSNext is a single unified system.
Project Mangement	Work Packages are not supported. Thus it is not possible for multiple managers to modify the same project at the same time.	<p>A project may contain multiple Work Packages (WPs). Each WP may be the responsibility of a different manager with suitable permissions.</p> <p>The managers are able to open their own WPs concurrently.</p> <p>The project manager can force control of the WPs if need be.</p>
	Supports To Do lists. However, this is a simple implementation which cannot be linked to any tasks and is not customizable.	Supports Tasks Steps which can act as a checklist for a particular task. Fully customizable with user defined fields and formulas.
Issues related to linking MSP and PWA (ie. linking the Client and Web components)	Before linking can take place, an Account must be created in two places, one in MSP and one in PWA.	None of these issues are present in PSNext as PSNext is one integrated system.

Description	EPM	PSnext
	It is not possible to force a PM to publish all assignments. Thus there is no guarantee that the resource analysis in PWA is correct.	All resource assignments are always published thus always ensuring correct resource analysis across the enterprise.
	Serious corruption of assignment data occurs when users cut and paste project tasks after the project has been published. According to the lecturer "Take a month leave to allow the experts to fix the problem".	No problem. Copy and paste can always be freely used in PSNext.
	After deleting assignments in MSP, the corresponding assignments continue to show in PWA for that resource. These tasks must be hidden one by one (and cannot be un-hidden).	Not relevant.
	In the event that resources have changed while booking time, there is complex <i>updating</i> procedure.	

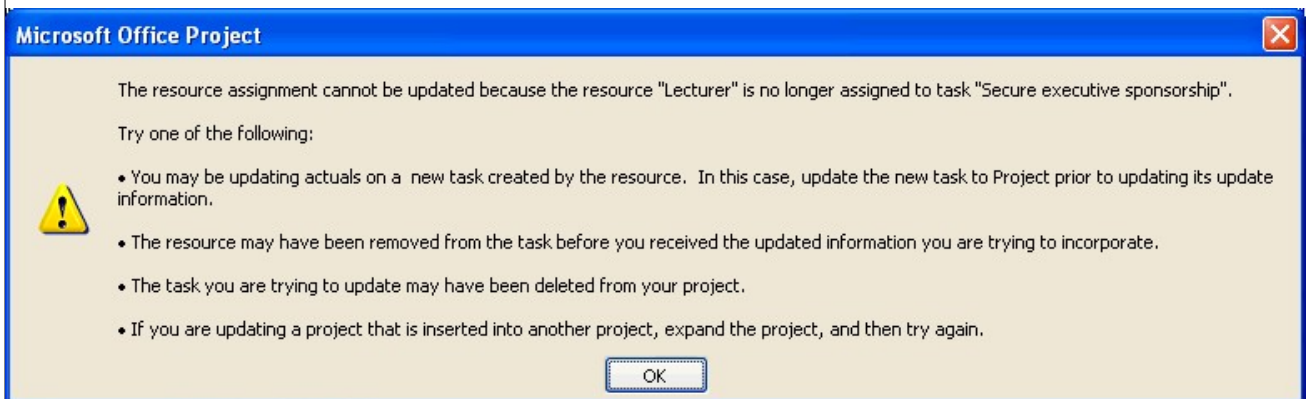
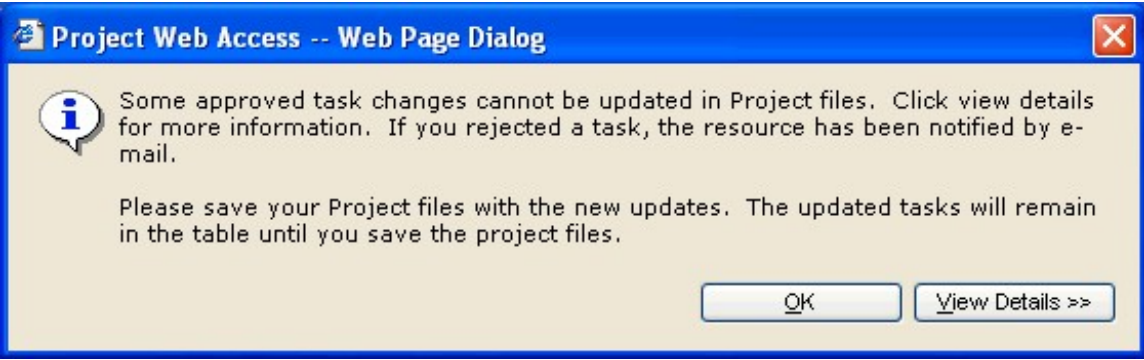


Figure 7: Once again the complex relationship between MSP and EPM present problems. Above is an error

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	<p>Use of Resource IDs is not supported. Thus if resources added locally in MSP is added to the server, only the resource name is used for linking.</p> <p>Thus, unless names are spelt the same with the same structure (initials / first name / last name) a new resource will be created on the enterprise server.</p>	<p>Not an issue due to a central database.</p>
WBS diagram	<p>No WBS diagram is provided.</p>	<p>WBS diagram graphically shows the hierarchical relationships between tasks.</p>
Timesheets	<p>No customization of timesheets is possible.</p>	<p>The timesheet and/or task updating system is fully customizable.</p> <ul style="list-style-type: none"> • For example, some users may enter number of kilometers travelled and hotel expenses, • while other users enter number of pages completed, • while others may enter the quantity of concrete that was poured.
	<p>Ability to create new tasks while capturing timesheets. This feature can be switched off to prevent team members from creating their own tasks.</p>	<p>Team members cannot create new tasks.</p>

Description	EPM	PSnext
	<p>EPM does not support Non-Project tasks as a separate category of work. (Eg. Leave, Admin, Marketing, Training, etc.)</p> <p>Non-Project tasks must be created as a project (called an 'Admin Project') with tasks. All resources must be assigned to each task in this Admin project.</p>	<p>PSNext supports Non-Project tasks. These are clearly visible on the timesheet as a different colour.</p>
	<p>Timesheets must be manually locked by the Admin department, called 'Lock Down'.</p> <ul style="list-style-type: none"> • Thus before Lock Down, timesheets can be modified, even though the project has already been updated. • The Admin department may forget to Lock Down the timesheets. 	<p>Timesheets are automatically locked when submitted by a team member.</p>
	<p>Ability to delegate tasks while capturing timesheets. However this feature is seldom used due to complexity of operation. In addition, functionality is limited as no data can be changed in the process.</p>	<p>Delegation not possible.</p>
	<p>Notes on timesheets are date stamped together with name of the person making the note. However, the whole note is one text field allowing anyone with access to the note to modify any part of the note or to delete the whole note.</p>	<p>Each response (called a post) is stored separately with security to prevent modification of posts by other parties.</p>
	<p>Timesheet notes are pure text fields and do not allow changes to font, colours or the addition of files or photos linked to the note.</p>	<p>Timesheet notes can be modified to show different text fonts and colours.</p> <p>Pictures and any electronic file can be linked to a post.</p>
	<p>It is not possible to link a note to a particular day of the week.</p>	<p>In addition to regular notes, Daily Notes allow comments linked to each day of the week. Ideal for billing purposes.</p>

Description	EPM	PSnext
Reports	<p>Apart from the OLAP Cube, very limited reporting. Dashboards must be custom-created via Crystal Reports or using program development.</p> <p>These include any item that reports on a calculated field as the Cube can only display built-in fields or hierarchical fields (called 'Custom Outline Codes') – no calculated fields can be displayed in the Cube.</p>	<p>No external report writer is required to generate amazing drill-down reports. Various objects may be combined in any size of combination, such as Gantt, Network diagrams, WBS diagrams, Radar charts, Pie charts, Bubble charts, Histograms, and other specialized objects such as Matrix reports.</p>
	<p>It is only possible to display a horizontally split screen showing the Cube graph and the text in spreadsheet format. It is not possible to display any other object at the same time. The size of each portion is fixed. See below:</p>	<p>See above.</p>

Description

EPM

PSnext

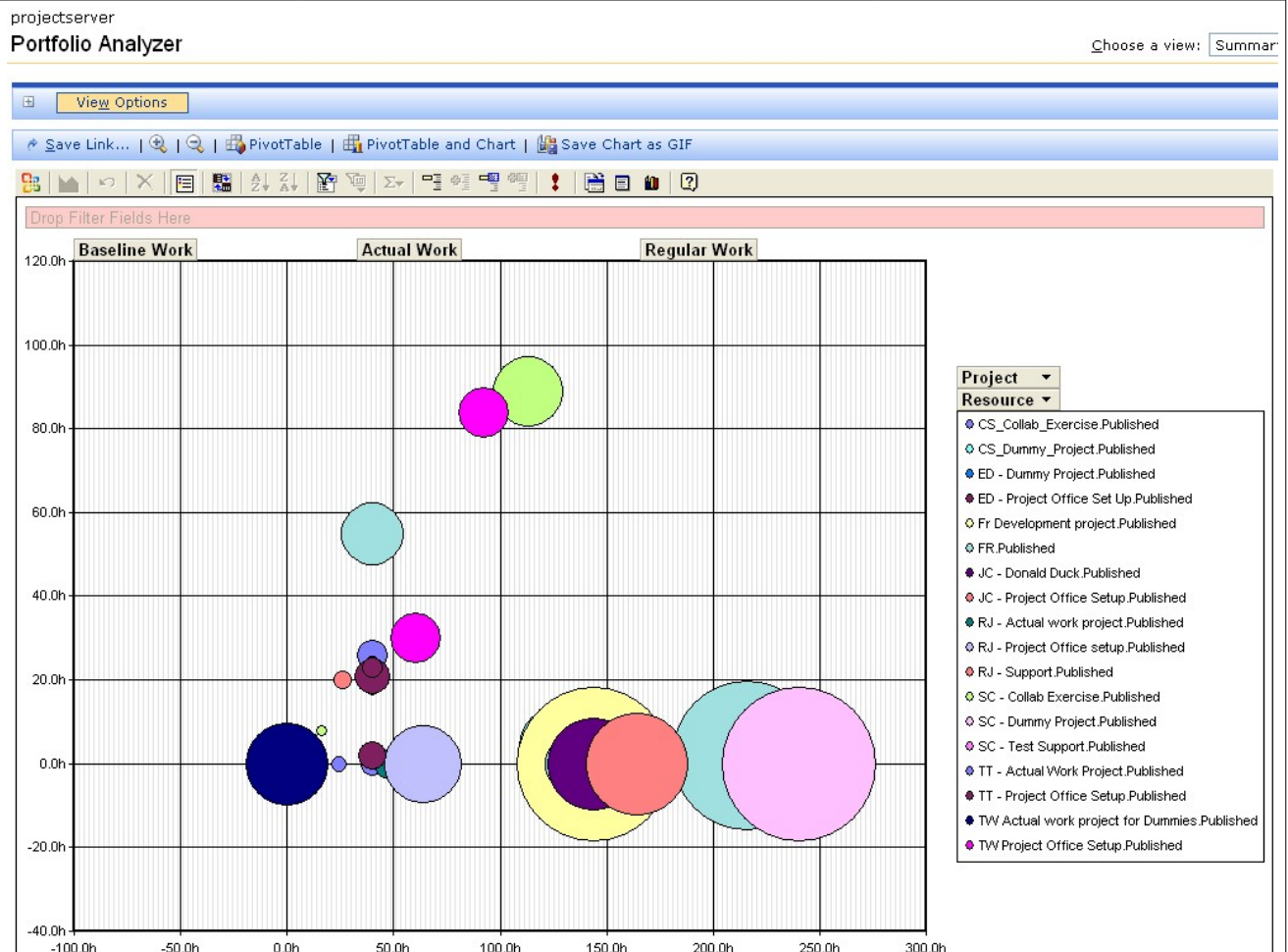


Figure 9: The Cube only displays the graph, a spreadsheet text, or a split screen. No other configuration is possible. The elements in the Cube are not hyperlinked to display more detail and the colours are meaningless. In PSNext, bubbles are hyperlinked - click on a bubble to show another custom report with more info on the project represented by the bubble. Also in PSNext, the colour of the bubble represents

According to an MS EPM implementer, very few companies are using the Cube.

- A significant problem is that it takes hours to generate the cube. This is usually scheduled overnight. Thus if one manager has not updated his/her work, the Cube may be useless for the duration of the day.
- The lecturer recommends weekly Cube building for larger companies.
- Another problem is that to play with the Cube parameters is

Reports can be generated in seconds to reflect the latest updates.

Description	EPM	PSnext
	usually too complex for a manager. However, a cube can be set up in the Admin Page for display only for managers (assuming all data has been updated and the Cube has run).	
Status Report Page	These are relatively simple text based requests to team members to verbally describe what they have done under various user-defined headings.	Done via discussion topic forum.
	The recommendation is to rather use the discussion forum as this will provide a better historical record.	
Outlook Interface	<p>A variety of pages can be displayed in Outlook in the form of folders in the navigation pane.</p> <p>The Outlook interface is not seamless and requires a plug-in which must run in order to synchronize Outlook and EPM. There is limited EPM functionality in Outlook. PMs need to rather use PWA or MSP to do their work.</p> <p>However is useful to display a list of tasks on which a resource should be working.</p> <p>Comment of the lecturer: 'Do not confuse a diary system with a PM system.'</p>	No standard Outlook interface. However, a custom interface can be developed.

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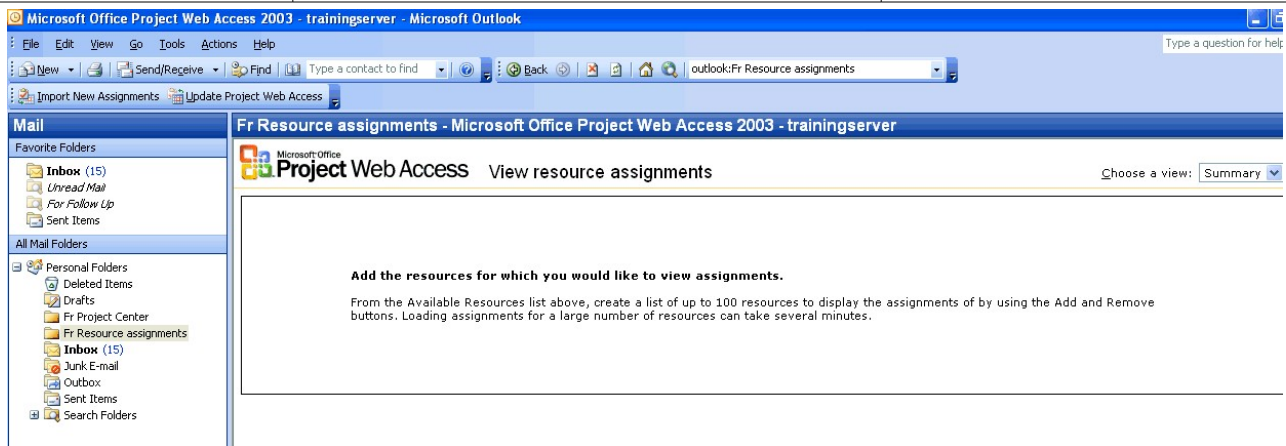


Figure 10: Problem with resources after adding a folder in Outlook. This is due to the limited functionality

	<p>Only assignment data is linked with Outlook. No project or task data is displayed in Outlook. Thus the Outlook is only useful for team members, not for managers.</p>	<p>No standard Outlook link available.</p>
<p>Technical Issues</p>	<p>Due to the volume of data, projects cannot be saved over a dial-up line. A single 50 line project consumes 450KB.</p>	<p>A project of 10 times the size in PSNext (ie. a 500 task project) uses 40KB of bandwidth to transfer. PSNext works well over a dial-up line.</p>