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Mobility in ERP- A step to Modernization

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1. Why to Mobilize ERP Systems?

Originally the focus of ERP software was to centralise key processes such as manufacturing, supply chain, customer service, HR and finance. ERP was something used by specialist 'owners' of processes and key departments, rather than a transactional tool that touched the work of everyone in the business.

Today, rather than adhering to procedures dictated by enterprise systems, workers are increasingly defining how those processes should be implemented and accessed. This is based on their choice of smart device and the information they need to access to do their jobs more effectively. Moreover, the demand for greater agility and leanness, as well as opportunities for competitive advantage, has turned the focus of ERP from being a repository and core processor into being a rich source of information for everyone. Ipso facto – if people have elements of that information packaged and presented in the right way, available at their fingertips, they will be able to make more informed decisions and complete tasks with greater speed and accuracy.

A four-phase roadmap for companies to embrace mobile enterprise strategy can be given as:

- Conventional Mobility: Availability of basic apps such as e-mail, messaging, contacts etc.
- Always Connected: Real-time communication and collaboration facilities to employees
- Pervasive Mobility: Function-specific applications that promote brand image and make internal operations such as finance and human resources more efficient.
- Automated Workforce: Critical apps like ERP, CRM and sales-force automation which allows for minimizing paperwork, reducing office visits, improving productivity and achieving higher sales closing ratio.

While ERP users are clearly demanding greater mobility, organisations are also seeing great value in the software heading this. It was found that those with mobile ERP in place are twice as likely to have real time visibility into the status of all processes in the organisation and also saw an improvement in the cycle time of key business processes. ERP mobility is reducing process-lag and therefore accelerating an organisation's ability to respond, which can only be to its advantage.

2. Advantages of adding Mobility to ERPs



ERP offerings are continuously evolving to accommodate more mobile environments and fit the needs of its users. While mobile devices like laptops, PDAs, and tablets made it possible to work on the road, now workers can use their ERP applications on their mobile devices to take advantage of business capabilities and insights. Mobile ERP solutions provide real time access to business operations, inventory levels, sales orders, and customer information, increase profitability through lower transaction costs, improve cash flows, and enhance communication and customer relations.

Here are the major advantages of using mobile ERP:

1. **Increased Productivity:** The productivity of a company as well as of its employees can be boosted by using the mobile ERP solutions. Mobile applications are being used widely in all most businesses such as logistics, e-commerce, manufacturing, travel, etc., by using the mobile ERP application, the activities of the employees can be tracked and the status of an assigned task can be monitored, which will not only increase the productivity but also save time and money.
2. **Improve Sales & Marketing:** ERP mobile app helps sales and marketing people in many ways. To increase sales or marketing strategy, a mobile application can be used to streamline entire operations. The sales team can get the details of the customers on their mobile, which helps to take decisions on sales calls and working on the leads. Even, a team can access the dashboard from the remote location, and can present fact and figures more smartly.
3. **Increased Quality of Service:** Mobile ERP helps in improving sales. When it comes to managing customers both after sale customers and prospective customers, the application will support a business in many ways. It will result in improving your services including post-sale services.
4. **Increased Data Capture:** Mobile application will help you to capture the data like never before. Data plays an important role in defining the success of your business. Of late, companies have been adopting big data and data mining to find the strategies for future business growth. Mobile application of your business can give you the data of your customers and their taste.
5. **Improved management of Production & Operations:** The processes like production and operation can be managed in an efficient way through the mobile erp application. The process can be streamlined by having an integrated mobile application with your ERP software. Mobile applications can help manufacturing companies in many ways like controlling the entire production process from a remote location and managing the team working at the manufacturing plant.
6. **Reduced operational cost:** It reduces the infrastructural cost of the company as many of the employees work from home. Moreover, the enterprises may have shared workspaces for the employees whenever they are bound to attend the workplace.
7. **Empowers the field workers:** Each organization has field workers. Enterprise mobility empowers these workers and their company to update their field work instantly, discuss any challenges, report to the authority instantly for spot decisions, engage in social network internally, and, etc.
8. **Provide customer satisfaction:** The Enterprises are able to contact their customers in real time, address their complaints instantly, take necessary actions, communicate instantly about the new offers or discounts, and, etc. This facilitates an appreciable level of customer support in less time. Mobile ERPs provide a streamlined and improved user experience compared to the desktop equivalent.

3. Route to Mobility

Then: Deskbound	Now: Untethered
PC based	Handhelds rule
IT led	Employee/customer driven
Company-provided devices	Employee-owned devices
Limited connectivity	Ubiquitous connectivity
Closed network	Open network
Mobile voice	Mobile video
Separate workers	Collaborative workers
Personal productivity	Business process productivity

Not too long ago, only a subset of enterprise workers was mobile. Today, nearly all workers are. This new mobile majority, influenced by the advanced capabilities of consumer devices, wants to use those devices for work.

A three step process guide towards making a business mobile is:

Step I: Reach

Extending everyday essential business communication and productivity tools to allow users to remain in touch and effective regardless of their location or the device they are using is the core fundamental behind offering a mobility solution. However, simply being able to reach the user does not offer a solution. You also need to:

- Understand your business's core mobile needs. Which staff needs to access apps remotely? What devices do they use? What requirements do they have for inputting and surfacing information?
- Prioritize the user experience—simplicity, familiarity and ease of use are the keys for smooth user engagement.
- Ensure appropriate security and support are in place to manage mobility effectively, in a scalable fashion
- Consider the platform requirements (email, mobile device management, core ERP) to fulfil these aspirations
- Extend the footprint of mobility in your business based on continuous feedback from users

Step II: Act

Empower both casual and heavy ERP users to access key data wherever they are, enabling them to act on information through simple, easy-to-use authorizations and acknowledgments, and to provide input and updates in real time from remote locations. You can:

- Manage costs and support requirements by adopting a tiered approach to extending mobility deeper into the business
- Make task-orientated apps available on a trial basis to super-users and internal influencers, who will help convey the importance of mobility to peers
- Look for 'easy wins' that help users tick off actionable tasks while in transit, e.g. PO authorization, expenses, timesheets
- Explore new areas where mobility can add value to your business
- Emphasize the usability and consistency of apps deployed across your organization
- Prioritize the ability to handle off- and online usage cases

Step III: Transform

Through action we then harness the potential of mobility to re-engineer core processes, automate routines and bring new levels of flexibility to the workforce, to move beyond industry norms and 'business as usual' engagement with customers and suppliers. This enables you to:

- Identify the mobile characteristics of industry leaders, and how they are using mobility to transform partner, customer, staff and supplier relationships
- Poll mobile needs and 'dream app' scenarios of stakeholders and everyday mobile end-users
- Consider the ways in which mobility supports broader strategic and process change e.g. BYOD schemes, deskless working, minimal-touch admin, getting closer to customers
- Share your perfect-state scenarios with mobility experts, and get help to build a business case around them

4. Cost of transforming to a mobile workforce

There is an initial cost to transforming into a mobile workforce, but it is an inevitable evolution and the long-term efficiency gains make it a requirement, rather than an optional luxury. Along with license costs and infrastructure, there are costs to providing additional configuration on the system-side and extra auditing and reporting. Ensuring the security requirements are in place will also be crucial to the success of mobilising the workforce and bringing new capabilities into the business.

5. Challenges to adopt Mobility

Enterprise mobility is a complex paradigm with multiple integration scenarios, and a rapidly evolving technology environment. It requires enterprises to address various challenges such as a broad device platform landscape, data security, performance, usability versus enterprise policies, and network connectivity.

A more specific list of these challenges include:

Developers/Architects



Complexity

1) *Multi-OS*—A variety of mobile platforms require the adjustment of the code according to the syntax of the Operating System (OS), which it supports and executes for operations. This process increases the time of development of enterprise software and hinders the approach of businesses to deliver the product in the shortest possible time

2) *Back-end Integration*—Provisioning the back-end application servers and systems for mobile apps is required to be accomplished before deploying the application. However, doing so is a complex task in itself as it may require re-writing the code of server for each application. Such re-writing may create issues of communication with the existing systems.

3) *Quality of the Application*— Developing a customer-centric, qualitative application is a crucial aspect as the success or failure of the app depends on this. Users of applications not only consider the functionality but the design and look of the app for appropriate user-friendliness.

Mobile Data Loss and Breaches

1) *Application security*— Malware is a growing concern with mobile devices, especially when users access company data through unsecured networks. Apps are highly vulnerable to attacks as they often act as carriers for viruses that exploit the weaknesses of mobile devices and compromise sensitive corporate information.

2) *Managing user identity*—The human element will probably always be one of the most difficult security challenges to overcome. They may misuse the ERP system because it's easier to take a shortcut or maybe share passwords with someone else when they can't remember their own. Disgruntled users may also intentionally put their organizations at risk out of some sense of entitlement or revenge.

3) *Uncontrolled BYOD policy*—Multiple layers of security need to be deployed which increases administrative costs. Data access, storing, and sharing policies through multiple devices should be thoroughly investigated from a security standpoint.

Security



Business



Time to Market

1) *Customer Experience*—The user expectations are high, pressure is put on the businesses to fulfil these expectations.

2) *Actionable insights*—To provide a single view of company's business to help the customers make better, timely decisions and react faster to market changes.

3) *Evolution of Technology*—Speed of continuous releases is ever increasing, technology is evolving at consumer pace. Businesses should remain at par with.

6. Mobile Applications

Mobile applications are designed to solve the challenges that keep manufacturers tied to their desks. From apps that specialize in quality, such as document control and SPC, to apps that deliver detailed information about production at your work centers, apps help manufacturers perform their daily responsibilities and increase overall shop floor control from anywhere.



Applications are developed for the following fields:

Product For:	Features can include:
Project Management	<ul style="list-style-type: none">• Review project financial information by cost code, as well as review and update project progress information for each cost code.• Review and update the planned and actual start and finish dates for each cost code for any project.• Enter, update, and approve change requests for projects, contracts, or subcontracts.• Enter time for your employees and workers on crews for projects.• Enter equipment time for projects.• Input account progress for projects.• Enable employees to enter project timecards.
Financial Management	<ul style="list-style-type: none">• Search for customers and review a summary of their accounts receivable status.• Create expense reports, attach photos of receipts, and submit the reports for approval.• View, approve, or reject a list of expenses awaiting approval.• Search for suppliers and locate their address, main phone number, and list of contacts.• Review and approve batches of invoices, receipts, vouchers, payments, and journal entries.

Assets and Lifecycle management	<ul style="list-style-type: none"> • Create new work orders for company-owned equipment that requires maintenance. • Review and manage a list of work orders, update the status, issue parts, add notes, and capture photos. • Create and view timecards associated with work completed on company-owned equipment. • Search and view characteristics for customers' equipment, update equipment information, add notes, add photos, and enter meter readings. • View and maintain condition-based maintenance alerts
Health and Safety Management	<ul style="list-style-type: none"> • Report occupational incidents including what happened, where the incident occurred, and who was involved, and attach photos of the incident. • Obtain an executive-level view of occupational health and safety incidents reported over the previous week. • Obtain a quick view of occupational health and safety incidents reported over the previous week with the ability to drill into details.
Customer Relationship Management	<ul style="list-style-type: none"> • Create new service orders for customer-owned equipment and add the equipment, failure description, site, requested date, and notes. • Review the service orders assigned to team members. • Update status and dates for service orders assigned to a team. • Create and view timecards associated with services performed on customers' equipment. • View and manage a list of assigned service orders. • Quickly and easily report a maintenance issue. • View assigned cases, as well as key information such as the failure description, equipment, and site.
Supply Management	<ul style="list-style-type: none"> • Review, approve, reject, and comment on purchase orders. • Review, approve, reject, and comment on requisition self-service orders.
Human Capital Management	<ul style="list-style-type: none"> • Search and locate an employee's contact information, work location, and organization summary information, as well as call, email, or text an employee.
Supply chain Management and Execution	<ul style="list-style-type: none"> • View information on the customer's open orders, quotes, held orders, and backorders. • Search and view key item information by branch/plant within their respective locations and lot. • View the locations and availability of an item at various units of measure levels. • Review and release quote orders and sales orders from a mobile device. • Review product pricing and availability for a selected customer. • Use your tablet to search for and select items for customer purchase, update quantity and order details, and create sales orders at the time of sale.

Apart from these, there are several other operational use cases as well like inventory management, internal security personnel management, facilities management and much more for which enterprise can opt to develop mobile apps for.

These applications could also provide certain Common User Interface Features like:

- Graphical data summaries such as pie charts and bar graphs
- List display with tap to details
- Search with standard entry and clear features
- Filters to further refine search results
- Primary and secondary action links logically positioned at the top or bottom of the app
- Application tabs with logically grouped information
- Springboard to easily log out and access app information, etc.

Key benefits of offering such services include:

- Access to data from a number of databases from remote location with secure encryption
- Track your executives while they are on field and also monitor their daily activities through an automated log
- Optimized and accurate business decision making process through availability of strategic data at any given location they are
- Integrate multiple data sources and provide highly effective and analyzed data to your business executives in one of the simplest of the form it can be
- Keep your teams informed on competitor activities, trade news and current business updates
- Allow teams to interact seamlessly with subordinates, superiors, clients, suppliers and more
- Optimize the productivity and reduce the operations cost
- Provide your front line leaders a tool to form an effective business strategy

7. Use cases for Mobile ERP



Here are some of the use cases for enterprise mobile applications that are adopted by most of the modern-day businesses to plan their mobility strategy.

1. Mobile App Use Cases for Utility and General Use:

- Collaboration and Conferencing

Many enterprises prefer developing mobile applications for employee collaboration activities. These applications allow the employees of the organization to search and connect with their colleagues or other employees of the firm. They help employees to hold up a business-specific meeting over the apps through conference calling and video calling features.

- Scheduling and Approvals

Scheduling and approvals of the leaves, time offs, late coming and various other activities related to the employees can be well-managed with the help of these apps. Using these mobile apps, it's easy and rather convenient for the employees to post request for time off, comp off or leaves at any point of time and while the managers have the flexibility to post approvals or disapprovals for the same even while on-the-go.

- Asset Management

These kind of applications can be used by the firms for tracking of their assets especially when they are transferred between the employees or carried to the other locations by the employees during their travel. It's easy for the companies to easily manage their computing devices and assets using these applications.

2. Mobile App Use Cases for Sales and Marketing:

- Sales Quotes and Orders

Mobile apps can be developed for easy generation of sales quotes orders and can be a very useful tool for the sales people as they can effortlessly generate order and sales quotes for their clients. With just a few modifications one can produce the right quotes and sales orders for their customers using such applications.

- Catalog & Pricing

You may develop mobile apps that show up your product catalog in a user appealing format with product descriptions, images, pricing and much more.

- CRM

CRM or customer relationship management apps are a must for any organization. Such apps help sales executives to have latest information of their customers and can enable them to have an effective relationship with them.

- Presentations and Collateral

These apps are the ultimate sources for sales and marketing guys of an organization. These people can easily access presentations, videos, demos, white papers, data sheets and other sales materials through the apps to show up or share any specific company related details or material with their clients.

3. Mobile App Use Cases for Field Service:

- Appointments Management

These are very useful apps for the field service employees who can very easily schedule, view, track and update their appointments with the clients even while on the go with these mobile apps.

- Work Orders and Signature Capture

Being able to update, track and view customer orders at anytime from anywhere is a great feature for the field service employees. These apps allow them to do so right their mobile devices. Moreover, most of these kind of apps are assembled with the signature capture feature that allows the employees to capture the digital signature of their customers after delivery of the order made.

- Time and Assets Tracking

The time tracking applications allow the field service employees to track time while on the go and on-site with the customers. This helps in easy payroll and customer billing. Moreover, a company would provide assets to the field service employees and hence, require a way to track these assets, their location and movement. This is possible with the asset tracking mobile apps.

Apart from these, there are several other operational use cases as well like inventory management, internal security personnel management, facilities management and much more for which enterprise can opt to develop mobile apps for.

8. Next Generation Enterprise Mobility



Service providers must ensure that their vendor's next-generation mobile enterprise solution enables the following capabilities

- *Includes Device & Application Management*

A service provider's enterprise mobility solution should allow for mobile device management (MDM) especially in the era of BYOD and CYOD. In terms of enterprise mobility, MDM means the management of smartphones, tablets and laptops in the workplace. The goal of proper MDM is to optimize the functionality and security of mobile devices within the enterprise, while simultaneously protecting an enterprise's network and proprietary data. MDM software enables the distribution of applications, data and configuration settings and patches for all the company's devices, and allows an administrator to oversee the devices (as easily from their desktop computer) and monitor the enterprise's users. MDM tools should include application management, file synchronization and sharing, data security tools, and support for either corporate-owned or personal devices.

- *Enables Flexibility*

A next-generation mobile enterprise solution must allow service providers to have a flexible environment. Service providers must be able to meet enterprise customers' changing needs by allowing for quick rollout of new mobile applications or quickly customize enterprise services to accommodate their customer's needs. A next-generation mobile enterprise solution vendor must enable service providers to quickly make informed decisions based on the customer data collected in the network, application or service layer. And since there is also strong demand among service providers for strategic solution partners, being able to easily integrate with these partners will enable them to provide more services to their enterprise customers and remain innovative.

- *Policy Enforcement via App Wrapping*

App wrapping is the process of applying a policy-based management layer to a mobile app without requiring any changes to the underlying application. This means that a specific set of policy elements can be applied automatically, which allows for heightened security. Apps can be wrapped with policies to enhance it with various security capabilities such as encryption, authentication, VPN connection or geo-location. Users have no idea that their application has been wrapped but on an administrative level for corporate apps it adds more security, priority and added peace of mind.

- *Enables Multi-Tenancy*

Multi-tenancy means the ability to utilize the same software/hardware to serve a number of tenants. A next-generation mobile enterprise solution must enable multitenancy, so that a service provider's application can serve multiple customers and ultimately provide the ability for tenants to customize some parts of the application. In the end, multi-tenancy can be economical for both the service provider and their enterprise customers, because software development and maintenance costs are shared.

- *Highly Secure*

A next-generation mobile enterprise solution provider has to enable high security for both the device and application layers and engender confidence in service providers as they offer new mobile services. Device security is complex, service providers may look to experts to help them in areas such as malware detection, app reputation, and performance and reputation analysis, as all of these will help in heightening enterprise security.