Money

Business Intelligence

· FREEDOM

PLATFORM ·

CATEGORY DISTRIBUTION

There are about 50,000 apps in the books category alone—almost 7,000 of which come from just one developer.

Other
See legend below

Books

Games

Music

Travel

Entertainment

Utilities

Lifestyle

Education

PRICES ·

Margin

Books	Utilities	Business	Photography
Games	Travel	News	Finance
Entertainment	Music	Productivity	Social Networking
Education	Reference	Healthcare & Fitness	Medical
Lifestyle	Sports	Navigation	Weather

Finance Report

Mobile Business Inteligence

Information at your fingertips

A White Paper by Scalable Systems


SCALABLE SYSTEMS | Transforming Data into Intelligence

Executive Summary

Computers have brought forth tremendous economic growth, increased efficiency, new capabilities and have forever changed the way people and businesses operate. We are now entering a new era, the 5th wave of mobile computing, which will bring a new standard of connectivity, remove traditional office restrictions and allow business to operate in ways they could have never imagined. Information and resources will be delivered to everyone, anywhere, anytime, independent of device and architecture. The advent of the 5th wave will bring powerful smart phones and tablet PCs that are comparable to today's laptops and desktops, with features that cannot be found in either, such as; multi-touch gestures and mobile data capturing. Those who embrace mobile computing will wonder how they ever did business without it.

Business intelligence (BI) has now become a core part to any business and mobile computing will extend and enhance the benefit BI brings. Mobile BI is not new, but has yet to see its true potential as many of its technological feature such as; application integration, sensor-based query, mobile capture, multi-touch gestures and integrated mapping have yet to be fully developed. Mobile BI will streamline information from top to bottom within the corporate ladder; delivering up to the minute information with decision makers, keep employees informed 24/7 with customary automated delivery of alerts, KPIs and performance metrics. In addition, it will allow employees to work from anywhere with custom dashboard, tools and access to enterprise resources.
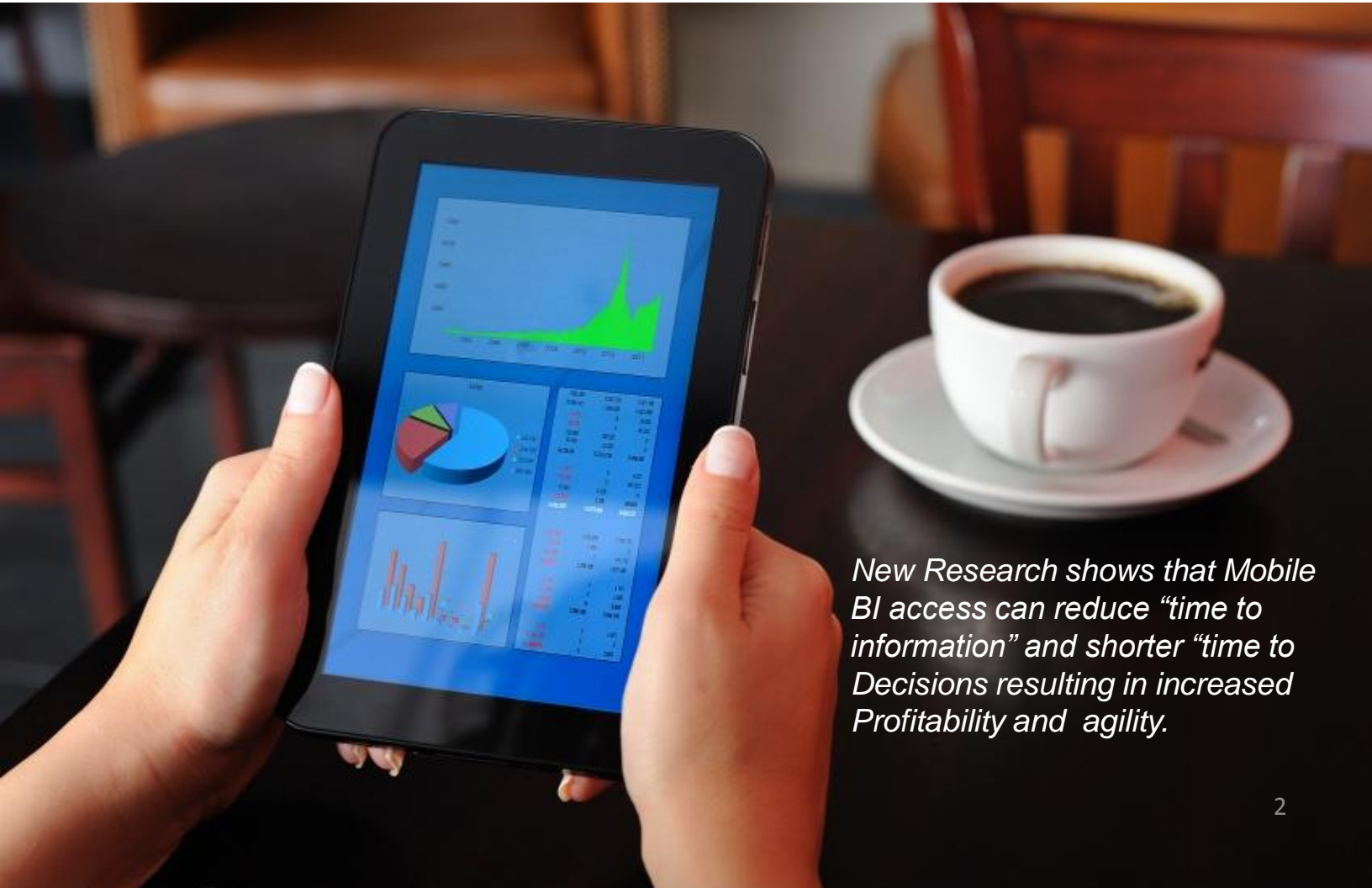
New Research shows that Mobile BI access can reduce "time to information" and shorter "time to Decisions resulting in increased Profitability and agility.

2

Innovative and visionary organizations use the early mover approach to gain a head start over their competition. Implementing Mobile business intelligence can bring significant advantages for early movers utilizing the latest technology to gain an overall operational advantage which will lead to increase productivity, profits, better decision making and ultimately end up leaving the competition struggling to catch up. Companies not agile enough to meet the ever changing market demand may end up in difficult situation such as Blockbuster, Borders, GM, etc. For example Blockbuster failed to adapt to changing consumer behavior and is now looking up in admiration at Netflix for utilizing streaming technology services. As an early adapter of the latest streaming technologies Netflix was not only able to beat the competition but also able to position itself as a leader in its domain.

As a technology mobile BI is no different than Netflix. Having access to information anywhere all the time can bring tremendous advantage and power to decision making executives. Research Company Gartner predicts by 2013, 33% of BIs capabilities will be utilized on mobile devices and that number is only expected to increase. With billions of mobile phone users and more than 60 million tablet users mobile business intelligence will play a significant role in decision making in the coming years.

A CNN article headlined 'Stranded leader runs country by iPad' illustrates the classic case of how mobile devices can enable critical leadership in times of crisis. According to the article "When Norway's prime minister found himself stuck in New York as a volcanic cloud grounded flights to Europe, he fired up his new Apple iPad and did the job remotely". Scalable Systems brings an unparalleled expertise in business intelligence and performance management services to provide any organization the best solution for enterprise wide OLAP and custom reporting solutions with specialized knowledge in leading business intelligence suites. With a focused approach to provide business intelligence anywhere, Scalable Systems provide solutions and consulting services in all aspects of mobile business intelligence implementation.
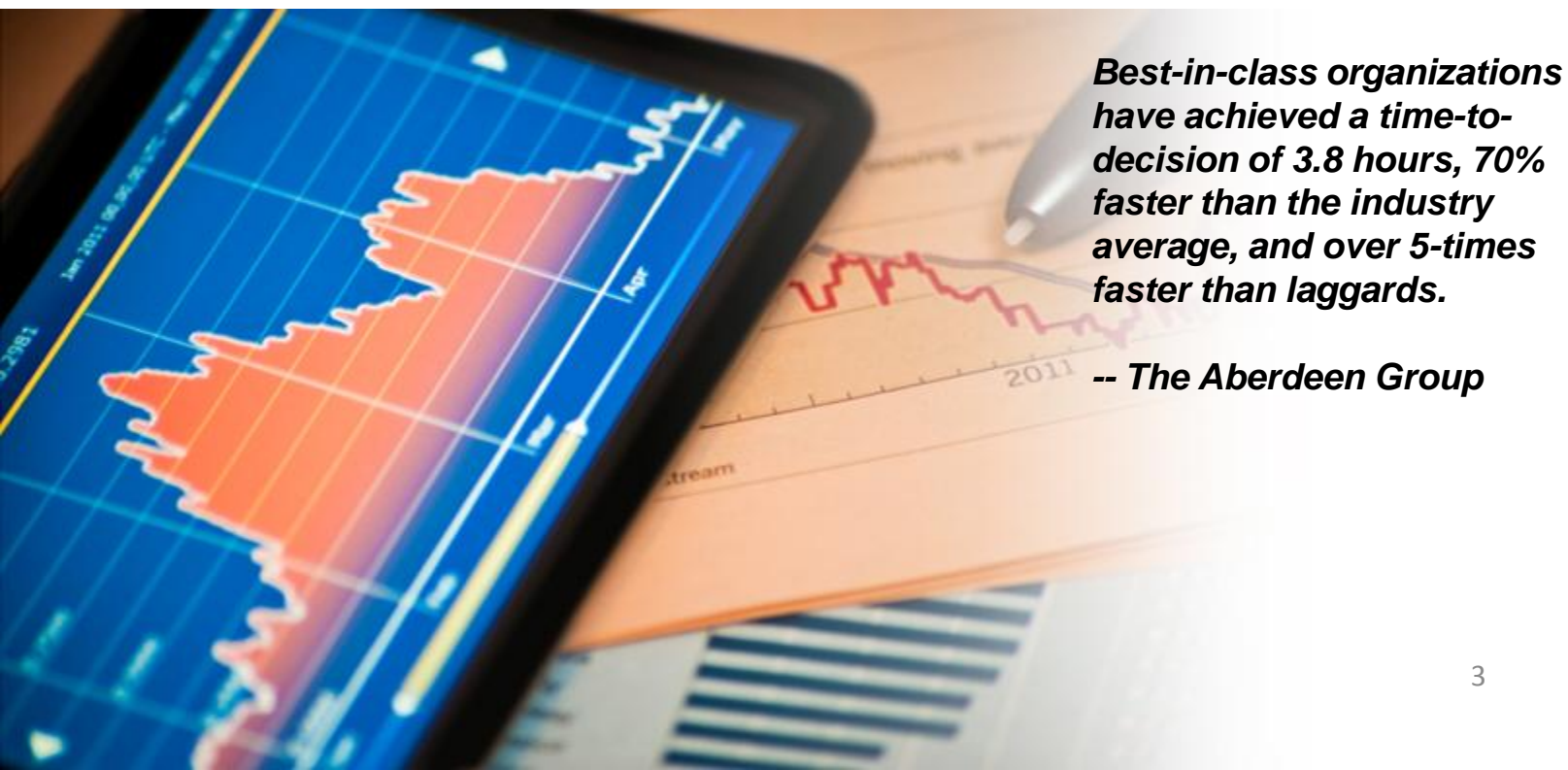
Best-in-class organizations have achieved a time-to-decision of 3.8 hours, 70% faster than the industry average, and over 5-times faster than laggards.

-- The Aberdeen Group

Introduction

Business Intelligence is the science of executing data analytics to study the effects of historical and current events affecting business. Using heuristics and predictive scenarios, BI enables businesses to identify future trends and capitalize on them with the help of intelligent information. With the world becoming more interconnected and flat, events occurring in one corner of the world have significant potential to affect businesses in another part. Information sweeps around the world at an ever increasing rate and requires businesses to deal with its agility. Even though Business Intelligence has matured significantly, the delivery is still in the ages of paper reports and desktop dashboards. Mobile business intelligence is an integral part of any business intelligence strategy. The key to maximizing business intelligence is in having quality analysis available when and where it is requested with the decision maker..

Business Intelligence applications are breaking away from traditional enterprise devices and become available in the "here and now". The decision maker is highly empowered when analytics can be delivered to him regardless of location. The CIO who is jet setting between multiple global locations can then view his dashboard to make a decision and direct his team's focus while having breakfast in Switzerland or having lunch in Tokyo. The agility with which a business recognizes and responds to events can have a tremendous impact on business operations and potential future earnings. With the advent of the fifth wave of computing devices, new channels for delivering information have become available, making information accessible anywhere, anytime to everyone. Mobile Business Intelligence is the next platform that will reduce lag time and eliminate the desk-bound constraints for receiving information.

The Fifth Wave of Computing

The history of computing has evolved in four major steps, each being dependent upon the former: mainframes, minicomputers, workstations, personal computers and now mobile computing; which brings in the next paradigm shift. Each wave has been more economically impactful than its predecessor and has brought forth tremendous growth, productivity and profitability when used in business operations. Previous waves were dependent upon advances in hardware technology whereas the fifth wave is derived from cheap computing devices, high speed wireless and open source standards. The fifth wave brings a pervasive ecosystem of connectivity, where access to information will be available all the time, everywhere, delivered to everyone.

> "46% have a process in place to automatically push BI reports to mobile devices on a pre-determined schedule. This capability can serve basic management information to business management without additional workload being placed on IT staff."
>
> -- The Aberdeen Group

Decisions are made all the time regardless of location. Mobile devices empower decision makers by having information available at their fingertips. This enables a sale person to view historical, statistical and other vital information about a client on the fly, which leads to better decision making. It Increases the availability of portable and interactive information to managers that is needed to operate their business efficiently, streamlining the flow of information to executives and employees. Intelligent Information needs to be available in real time, when and where it is requested. Being able to deploy 5th wave mobile computing devices will establish a highway of real-time intelligent data and decisions with the help of enterprise resources.

With push capability of mobile devices, employees will not have to waste time being concerned with when their information will become available, but rather it will be delivered automatically. Including custom dashboards, the ability to view charts, reports, alerts, KPI monitors and perform predictive analysis, all with the aim to guide decision making with real-time, accurate, actionable, intelligence information. Executive offices won't be restricted to a desktop or office building, but will be delivered to the mobile device. Companies who provide workers the ability to access real-time decision making information will be able to respond more quickly to customer demand resulting in higher efficiencies and increased revenues.

Mainframe   Mini   Workstation   PC   Mobile

The Early Mover

Gartner predicts that by 2015, 50% of web sales will occur through mobile applications and by 2013, 80% of businesses will support a workforce using tablets.[4] Sales of tablets are expected to double this year and smart phones will hit $200 billion in sales by 2012.[5,6] The majority of tablet and mobile sales can be attributed to employees who use them for conducting business. The global mobile workforce is expected to pass 1 billion workers this year and 1.2 billion by 2013.[3] In the U.S. there is mounting pressure on companies to take advantage of mobile technologies to help bring balance in work and play. By 2013 75.5% of the U.S. workforce will be considered mobile.[4] The timely availability of information is paramount; decisions are based on accurate information and are made at a moments notice. Some of the biggest winners in business have been the "early movers", who take advantage of next generation technology. Netflix is a prime example of an early mover who is leaving companies struggling to compete.

Netflix was able to utilize the shift towards streaming technology and built upon its existing platform of mailing rentals. Their combination of emerging technology with consumer behavior has their stock gain over triple the valuation within the past year. Competitors in the form of Wal-Mart tried delivering their own streaming service but ultimately succumbed to Netflix, resulting in a trade-off advertisement deal. Blockbuster is lagging trying to play catch-up, has suffered the closure of over 1800 stores and is diverting existing resources to deploy its streaming service. Blockbuster is even contemplating closing down about 7800 stores worldwide just to remain competitive.[2] Countless other lesser-known retail video outlets have shutdown. Some have dubbed Netflix as "The Video Store Killer". Being able to effectively utilize emerging technology as a first mover is clearly proof that organizations that are able to capitalize on new technologies gain the advantage of being industry leaders.

Just like Netflix, companies will be able to build upon its existing business intelligence platform and capitalize on the growing trend of a mobile workforce and the advantages it brings, such as; increased productivity from always being connected to enterprise resources regardless of location, reduced cost for offices and associated infrastructure and an increase in efficiency for employees ability to complete an assigned task immediately. Mobile BI applications have integrated functionality with existing enterprise BI infrastructure and expand the capability of existing strategies. With an interactive graphical user interface, deployed on a familiar mobile device, mobile BI is now even easier to use. An employee who wielding constant up to date information, that can perform any task assigned to him/her with the aid of enterprise resources, at a moment's notice, regardless of time or location, is an indispensable asset.

Best-In-Class Strategies

In order to provide such a service, an organization must be adequately prepared. Here are some recommendations for Best-in-Class strategies and practices;

Role Driven Interface

When deploying mobile BI, taking a role based approach has significant benefits in multiple areas. By designing Role-specific BI reports, dashboards, and alerts, you are developing a framework for success. Deploying exactly what the end-user needs to perform their duty along with information that is specific to their classification is twofold. This allows for increase in efficiency and security. Only delivering what the employee needs reduces download time of information, time spent looking for information and processing power of their mobile device. Security is also enhanced as you limit the distribution of sensitive and confidential information to only those who absolutely need it. In addition, role specific BI also delivers appropriate use of enterprise resources through minimizing workloads users can place on servers, whether it is intentional or unintentional. Security is also enhanced by reducing the spread of infection to the resources that the infected user has access to.

Managerial Involvement

Often projects fail when the right people are not involved. This can easily be observed when a new interface or product is launched without soliciting input from end-users. The most important users of mobile BI are your operational managers; they deal directly with front line employees and know the ins and outs of their respective operation. Managers should be involved in the development and delivery of any widely used BI implementation, this is especially true when using the role based approach. Managers receive feedback from end users and as BI users themselves, know what and how information is relayed both up and down the corporate ladder. They also provide historical insight on how past issues were resolved, greatly affecting how mobile BI should be developed. Decision makers should be an integral part of developing and deploying mobile BI.

> "44% of best in class agree that mobile BI deployment is to propagate beyond executive suite, by providing timely information to front-line employees.
>
> 41% of best-in-class organizations already provide senior staff with a mobile dashboard showing the status of the organization's KPI, representations of general health of the business. "
>
> -- The Aberdeen Group

Mobile Device Management (MDM) software

Use of MDM software helps incorporate many of the best practices outlined in the following sections and is a highly recommended tool to completely manage your mobile deployment and supports a wide range of mobile devices. MDM software reduces mobile deployment operating costs by optimizing your mobile communications while reducing downtime. MDM gives IT administrators the ability to proactively and systematically manage mobile devices': applications, security, functionality, updating/patching, configuration and troubleshooting by using "over-the-air capabilities" It solves problems faster by centrally locating the management of all your traditional mobile devices with the addition of smart phones and tablets. MDM also provides scalability, can be cloud-based and gives the ability to select single or multiple vendors for client-server applications.

MDM Software Capabilities	
• Remote Software & Firmware Installation and Support	• Remote Lock and Wipe
• Diagnostics, Logging and Reporting	• Policy Application
• Remote Configuration, Administration and Provisioning	• Mobile Asset Tracking and 'Breadcrumb' Mapping
• Security, Backup and Restore	• Troubleshooting and Diagnostic Tools

Best Practices

Quality vs. Quantity of data

Data quality is the core of business intelligence; nothing is worse than having inaccurate, outdated or an assortment of worthless information. Data must be governed at its source; adequate resources should be dedicated to upholding the integrity, availability, and accuracy of quantified information. It is imperative that the amount of information delivered be specifically tailored to the individual's job duties or role. Too much information will slow down the end-user as they sort through information that is pertinent in order to complete their assigned tasks.

Performance.

Continual assessment, tracking and monitoring the impact of the existing business intelligence strategy is required, through the use of KPIs or other performance review systems. Like any other venture, measurement of success and failures will help determine how to adjust your BI strategy to meet both short and long term goals. Setting up a training curriculum for end users based on applications and information interfaces will help end users maximize the features of your mobile BI solution. No matter how much training an individual goes through they will never remember every word said and completely understand every topic. It is highly recommended to support end users with a well-trained dedicated help desk team that should be integrated with IT assisting of administrators of MDM software or your chosen support solution.

> "52% of best in class enterprises dedicate IT staff to mobile BI initiatives. "
>
> -- The Aberdeen Group

Technology Agnostic Architecture

In order to remain flexible, BI strategy should be developed with an open mindset and not geared towards a specific product or device. With technology constantly evolving and the endless possibility that untapped mobile BI brings, having a platform that transportable is key. Data structures should not be heavily restricted to any specific standard as doing so would limit the spread of information and make it difficult to adapt to a changing business environment.

Security.

One of the biggest concerns when it comes to the delivering of BI to the mobile workforce is information security and access control. Companies should adequately address the security concerns of implementing mobile BI. This includes applying all standard company security policies and IT maintenance practices as mobile BI will deliver sensitive and confidential information from multiple parties. Mobile devices share the same security concerns as desktop and laptop computers but are more susceptible to being lost or stolen. Because of these and many other security concerns strong emphasis is put on; restricting specific information based on job duties or company roles, use of VPN tunnels, remote "lock & wipe", encryption of device and traffic of information. Mobile BI should not be deployed until the security of information to, from and on the device are addressed.

Following security guidelines may be considered for mobile Business Intelligence.

- Remote Lock & Wipe
  - Remotely wiping or locking down your phone's data and SIM card access via a SMS message or third party program (I.E MobileMe)
- Remote Management
  - Ability to apply security patches & updates to firmware/applications/OS
  - Troubleshoot
  - Restore settings & configurations
- GPS locate for recovery
  - Adds the ability to alert local authorities of stolen devices.
- Antivirus
  - Reduces the increasing risk of Malware, Viruses, Trojans, etc
  - Protects from loss of data & security vulnerabilities
- Education
  - Security risk specific to mobile devices and what users should be aware of
  - Proper use (do's and don'ts)
- Auto Lock & Self destruct
  - Use of timeout features to auto lock device due to inactivity. If lost or stolen device data will be protected.
  - Limit the number of passwords attempts. After 3 password attempts automatically wipe device. Prevents unauthorized persons from accessing data.
- White/Black List of applications & websites
  - White lists are composed of approved applications and websites that pose no security risk.
  - Black list are composed of prohibited applications and websites that pose known security risks.
  - Passwords
  - Use of non-repeating complex passwords that are changed on a predetermine bases.
- Encryption
  - All Communications
  - VPN tunneling to corporate resources
  - Email via PGP, Digital Certificates, etc.
  - Device
  - All stored content & Media Cards
- Be aware of embedded features and services that could be exploited
  - Bluetooth
  - WiFi
  - VOIP
  - Disable all unused features and services

Push vs. Pull.

A deep understanding of what and how information will be used on the mobile device is vital. There is absolutely no need for an employee to download gigabytes of information to produce a single chart. Doing so would drain not only the battery and available bandwidth but would leave an employee unproductive as the same operation could have been performed using enterprise resources in a fraction of the time. In order to maximize the use of mobile devices, a large majority of computation and analytics should be pulled from the enterprise resources as a mobile device has a very limited memory and processing capacity. Guidelines should be established for your chosen mobile device so end-users are efficiently using your deployment for maximum results. Information that is to be pushed to end users should be tailored to an employee's specific task or role. Establishing an automated or user directed report schedule, alert messages and role based dashboard to the mobile workforce will reduce wasted time from employees looking for updated information. User customization of delivery options gives the end user the ability to filter information and provides a familiar feel of other hand held devices. The use of KPI in this area will help align business operations with your mobile BI strategy.

Interface Design

Special attention should be placed on your chosen devices graphical user interface as it will limit how dashboards and associated panels will be displayed and interacted with. Screen size, accuracy of the touch screen and the developer's ability to refine an interface will ultimately determine the usability, clarity and speed of how information is processed. Studies have shown how redesigning user interfaces based on feedback and testing from end users improves overall usability. Ergonomics also plays a part as mobile devices interface are designed in accordance with hand placement.

Policy

Policy is everywhere and there is no exception for mobile BI. During the design phase you should consider how your mobile BI strategy will effectively merge with existing equipment and practices. Specifically, what mobile BI technology you plan to utilize and the relationship it has with your chosen device's functionality, capabilities and screen size. This will help establish what information to be pushed and pulled, application delivered, security applied, management and maintenance software and protocols and acceptable use of enterprise resources. In addition, remote management of devices should also be a concern for maximizing your investment. Being able to remotely upgrade, install, configure and troubleshoot your mobile device will be essential. Investing in devices that meet performance requirements, functions with existing enterprise equipment, and can adhere to existing company policy should be given adequate thought as it will ease the deployment.

Conclusion

Each successful organization monitors progress and measures success in their own unique way as it is tailored to their specific goals. However, there still are three common measures that every business and every industry must monitor.

1. Revenue
2. Operational Cost
3. Compliance

Today Revenue, Operational Cost, and Compliance objectives play great role for business success, but without agility and innovation businesses can not sustain the rapid global change. Besides brining values to revenues, operation cost and compliance mobile business intelligence brings another dimension of success, agility. The ability to respond customer and market demand and making decision on the fly can only be possible having mobile business intelligence as an integral part of the business intelligence strategy. Scalable Systems, a business intelligence service and solution provider can help to improve measurable agility and revenue growth to your organization by implementing a scalable mobile intelligence strategy and solution.

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About Scalable Systems:.

Scalable Systems is a global software consulting, development and IT outsourcing company providing both onshore and offshore software solutions and integration services to business enterprises around the globe. Scalable Systems has proven expertise in encompassing low cost, but high quality and reliable software solutions and services in areas like Data Management, Business Intelligence, Content Management and Application Development.

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