

## **Enterprise Risk Management: Industry Overview**

Enterprise risk management is a relatively new field of corporate practice brought to the forefront of enterprise interest because of the recent global recession, negative media attention to the mismanagement of insurance-backed home mortgages and ensuing government regulation. In 2012, poor risk management practices and contrived methodologies are reported to have contributed to the loss of billions of dollars by financial giant JPMorgan Chase. The Deepwater Horizon oil spill cost BP billions in revenue and caused long-term stock depreciation. Overlooked and devalued operational and reputational risks have greatly affected enterprise performance and revenue. Unwanted media attention has increased negative public sentiment on the deregulation of large enterprises within all industries. The financial, banking and oil industries in the US now face massive government regulations such as the re-introduction of the Glass-Steagall Act due to adverse reputational risk events. In the US alone, government compliance regulations cost businesses across all vertical market sectors approximately \$1.16T USD annually.

Risk is inherent in every aspect of business. Risks can be categorized into four enterprise risk domains: hazard, operational, financial and strategic risks. These domains are managed by risk personnel who identify, analyze and monitor risks in order to form and modify internal controls. These internal controls address positive or negative consequences resulting from business processes and decision-making. Formally or informally, enterprise risk management (ERM) is universally implemented across all industries to eliminate,

transfer, mitigate or absorb losses brought on by external and internal risks. Risks may also present opportunities to grow an enterprise. ERM is a comprehensive practice that best addresses the needs of an enterprise seeking to manage risk, comply with federal laws and institutionalize good business practice. The ERM industry seeks to streamline and automate risk management practices and methodologies to provide clients with services and software tools to address integrated risk management functions.

Enterprise risk management focuses on four categories of enterprise risk: hazard, operational, financial and strategic. Almost all companies, especially small to medium-size enterprises, focus only on mitigating financial risk. Hazard risks are physical or environmental conditions or situations that can lead to an increased probability or impact of loss. Operational risks are adverse conditions or situations resulting from failed or inadequate business processes, controls and systems. Financial risks are losses resulting from failed or impaired finance practices implemented by an enterprise. Strategic risks are positive or negative consequences that can lead to enterprise growth or loss resulting from leadership decision-making.

In theory, enterprise risk management functions begin by the assessment of all risk present in individual business silos by independent risk departments or personnel. After the assessment processes are finalized by the risk managers, reports are brought to the executive in charge of risk, typically

a Chief Risk Officer (CRO) or Chief Financial Officer (CFO). Enterprises can choose to address risks by absorption, mitigation, transfer or elimination. Absorbing risk, also known as self-insurance, is done by setting aside liquid assets to cover risks that can not be insured against. Mitigation is achieved by implementing good practices, procedures and guidelines to decrease the possibility or severity of an adverse event. Transferring risk refers to moving risk responsibility to external players. Eliminating risk is done by removing or altering business processes, controls or systems that may not be necessary for fundamental enterprise operation, or exiting the market sector altogether thereby removing the risks entirely.

ERM is a risk-driven methodology that focuses on integration of risk silos through communication and executive accountability. The integration of all risk silos produces a comprehensive and complete picture of all major risks facing an enterprise. A risk officer utilizing this picture can better understand how risks are intertwined among silos and may affect the enterprise, resulting in better risk management practices and decision-making. Governance, risk and compliance (GRC) methodologies are claimed by some to address risk by including it holistically with governance and compliance practices. Addressing risk in a holistic manner may confuse executive accountability between risk officers and internal audit officers. This may also lead to risk being viewed as “managed” through compliance and internal audit functions. Although ERM is classified as being part of the GRC umbrella, the holistic nature of GRC may reduce risk management to protecting value instead of adding to it. ERM focuses specifically on rewarded and unrewarded risks, and their

positive or negative value to an enterprise. ERM requires risk to be analyzed by risk specialists. Employees who are not risk specialists may introduce interdisciplinary biases towards risk.

Overall, the ERM field has not yet been fully developed and is under increasing external pressure to deliver results to government regulators, shareholders, clients and the public. Enterprises within the ERM industry are failing to deliver results to clients upon implementation. Existing industry software does adequately improve silo interaction, lead time or decrease labor costs. However, such software implementations often overrun budget size and schedule. Without comprehensive ERM software, clients are often blindsided by adverse risk events which lead to market share and revenue loss as well as public scrutiny and government intervention.

The US consulting services industry, which provides most ERM services, contains approximately 130,000 enterprises and has estimated annual revenue of \$165B USD, and \$300B USD worldwide. The industry is highly fragmented with the top 50 companies controlling only 30% of total industry revenue. Ernst & Young, PriceWaterhouseCooper, KPMG and Deloitte, also known as the “Big 4,” are the most well-known industry leaders, but are more regarded for their auditing practice. Neither they nor their competitors focus solely on ERM services or software implementation. Estimated ERM software revenue for 351 independent vendors is \$36.2B USD annually. The top five vendors: SAP, Oracle, Microsoft, Sage and IBM each account for an estimated \$1B USD in ERM revenue annually.

## **Competitive Landscape:**

### ***Governance, Risk Management and Compliance Software Providers***

#### **SAS Institute**

US-based SAS Institute is the largest private software company in the world. It develops and provides analytical software and controls the largest market share in advanced analytics. 79% of Fortune 500 companies utilize SAS software to gather, store, analyze, report and make decisions based on corporate data. Company revenue is an estimated \$2.7B USD as of 2011. SAS Institute presently employs more than 13,000 staff, with products being utilized in 135 countries.

#### **Sword Achiever**

Sword Achiever is the GRC software developer for Sword Group, a France-based IT service company established in 2000. As of 2011, company revenue is an estimated \$202.8M USD. Sword Group employs 1,300 staff in 15 countries.

#### **Mega International**

Established in 1991, Mega is a France-based leader in the GRC market space. Company revenue has been estimated at \$40M USD worldwide, with 10% of all revenue coming from US markets. There is no available information on what year this estimate is from. Mega employs approximately 300 staff in 8 countries, including France.

#### **Cura Software Solutions**

Cura Software Solutions was acquired by Cura Technologies, Ltd. in July 2009. Cura Technologies is an India-based embedded technology solutions provider. Company revenue is an estimated \$128.8M USD. Cura Software Solutions accounts for an estimated \$8.4M USD of Cura Technologies worldwide revenue.

#### **Enablon**

Enablon is an industry leader in GRC software solutions space. Company revenue is an estimated \$17.5M USD. Enablon employs approximately 200 staff. According to the company website, Enablon software solutions are utilized by 300,000 users in 1,000 global companies, and thousands of small to mid-size enterprises worldwide.

## *Enterprise Resource Planning Software Providers*

### **SAP AG**

SAP AG is a German-based public company that provides business operations and customer relations software to enterprises. SAP is one of the largest independent software enterprises and a market leader in enterprise application software. Top products include new mobile products, in-memory computing, enterprise resource planning (ERP) and data warehouse solutions. Estimated annual revenue in 2011 was \$17.3B USD. SAP AG employs approximately 59,420 staff operating in approximately 120 countries as of 2012. BusinessObjects was acquired in October 2007 for \$6.8B USD in a strategic move meant to allow SAP AG to better compete with Oracle, their primary competitor. SAP BusinessObjects provides an integrated business intelligence platform to other competitors in this dossier.

### **Oracle Corporation**

Oracle is a public American-based global corporation specializing in computer hardware systems, and enterprise software such as ERP, customer relationship management and supply chain management. Oracle is best known for its database management systems. Oracle is the largest global provider of enterprise software and a leader in computer hardware products and services. Annual revenue is an estimated \$37.1B USD as of 2011. Oracle invested \$4.5B USD in product research and development in 2011 and 2012. Oracle employs 115,166 staff operating internationally. Oracle has completed \$40B USD of company acquisitions as of 2010.

### **Microsoft Corporation**

Microsoft Corporation is a public American-based global corporation involved in a wide range of computing products and services. Microsoft is the largest global software corporation by revenue, which is an estimated \$69.9B USD as of 2011. Microsoft's business division oversees the production and development of Microsoft Dynamic ERP software suite and customer relation management products. Microsoft employs approximately 90,000 staff worldwide as of 2011.

### **International Business Machines Corporation (IBM)**

IBM is a public American-based global corporation specializing in computer hardware and software systems, products and services. IBM is the 31st most profitable corporation in the world with annual revenue estimated at \$106.9B USD. IBM has nine research labs and owns more US patents than any other software company based in the US. IBM is the second largest employer in the US comprised of an estimated 433,362 staff as of 2012. IBM has made 59 mergers or acquisitions since 2007, including OpenPages in 2010. Other major acquisitions include PricewaterhouseCooper (PwC) in 2002.

**The Sage Group, plc. (Sage)**

Sage is a public, England-based, global limited company specializing in enterprise software. It is the largest provider of enterprise software to small businesses, with 6.1 million customers and third largest provider of ERP software in the world. Sage has an estimated annual revenue of \$2.1B USD. Sage operates in 23 countries with an estimated 12,300 employees as of 2011, and offers its solutions in 160 countries.

**Palisade Corporation**

Palisade is a private computer software company founded in 1984 and is based in Ithaca, NY. It has strategically located offices worldwide including Tokyo, Sydney, London and Rio de Janeiro. Its flagship product @Risk is utilized by an estimated 150,000 users in 100 countries and has been translated into seven languages. @Risk is the world's leading risk analysis tool. According to Manta.com, Palisade has estimated revenue of \$10M to \$20M USD and employees approximately 20 to 49 staff.

## **Companies Of Interest: In-Depth**

*Due to ERM being a relatively new field of expertise it is important to note that many major software vendors may not have ERM solutions available in a single software product. Rather, they have ERP or GRC software suites that are implemented to drive ERM best practices. Whenever possible, this report will identify and analyze standalone risk management modules.*

### ***Governance, Risk Management and Compliance Software Providers***

#### **SAS Institute**

SAS Institute is a well-known operator in the analytics industry. SAS software solutions address two areas of enterprise risk: GRC and quantitative risk management. SAS Enterprise GRC is a platform that integrates enterprise risk information. It links to the GRC elements to provide a single, enterprise-wide view of governance, risk, and compliance. According to industry reports, this platform is adequate for supporting non-risk functions such as compliance and audits, partnering with BPS Resolver for advanced audit functions. The strength of SAS is quantitative analytics. Powerful algorithms accompanied by Monte Carlo simulations drive risk management and predictive analytics solutions. SAS risk management software solutions face only four major industries: banking/financial services, energy, government and insurance. Small business enterprise needs are more readily addressed by other SAS software solutions.

#### **Sword Achiever**

Sword Achiever is historically a strong ISO and EH&S compliance software solution provided to the operational GRC niche market. Sword Achiever provides clients with advanced controls on enterprise risk and identifying key risk indicator relationships with business objectives. The software supports silo integration and process efficiency. However, gaps in ERM and GRC expertise contribute to weak risk content which limits the effectiveness of risk management solutions.

### **Mega International**

Mega International software solutions address three aspects of risk management. First, Mega Enterprise Governance, Risk and Compliance (GRC) has been developed with a top-down approach, aiding executives in managing and communicating risk information. Mega GRC consolidates information from Mega Enterprise Risk Management (ERM), Operational Risk Management (ORM), Internal Audit, and Compliance Management software solutions. Second, Mega ERM, framed around COSO II, addresses all risk management concerns and implementations through Mega risk consultants. Industry reports identify Mega ERM as one of the company's stronger offerings. Third, Mega ORM addresses business processes reengineering. Mega ORM identifies internal risk profiles by aggregating information on incidents and company losses. Industry-standard Monte Carlo simulations drive this product, as well as proprietary risk modeling and Bayesian scenario networks. Risk solutions are driven by SAP BusinessObjects. Mega is currently focused on the banking and insurance industries, but is beginning to expand its markets.

### **Cura Software Solutions**

Cura GRC Management Platform is the foundation of the company's enterprise risk applications. Product updates have increased usability and system integration capabilities. Monte Carlo simulations drive Cura's risk management software solution, which receive high quantitative and qualitative marks from several industry reports. The risk management software is the backbone to many other satellite ERM/GRC product offerings such as project risk management. LexisNexis provides risk content, which significantly strengthens Cura's risk management expertise and capabilities. Cura relies on SAP BusinessObjects platform to support risk database integration.

### **Enablon**

Enablon solutions are provided as SaaS, or in-house applications. Enablon seeks to provide companies with sustainable GRC products. Enablon ERM software solutions cover the full range of governance, risk management and compliance pursuits. Enablon RM is the risk management module that addresses risk assessment, management and controls, and spans the entire risk management cycle from identification to mitigation and response. Enablon advertises its SaaS risk management software solutions as an industry benchmark, being implemented and project-tested by numerous companies. Industry analyses points to weak risk standards content, adding that Enablon is currently addressing this issue by partnering with content companies.

## ***Enterprise Resource Planning Software Providers***

### **SAP AG**

SAP AG rolls out ERM solutions to customers utilizing their GRC solutions suite of standalone software products. The Risk Management module enables customers to focus on risk exposure and response across their entire enterprise, run risk assessments using proprietary Monte Carlo simulation software, integrating mitigation and prevention systems and automate monitoring of key risk indicators (KRIs). SAP Risk Management module has industry best practices embedded as predefined options. According to information found in “Clash of the Titans 2012,” an ERP industry report released by Panorama Consulting Solutions, SAP is selected for implementation fewer times than its major competitor, Oracle. Once selected, SAP takes an average of 13 months to implement. Customer satisfaction rate is 39%. SAP also has the least predictable ROI of the three companies in the report and the longest payback period. Total cost of ownership (TCO) is the highest in the report. However, SAP has the lowest budget overrun and controls 22% of ERP market share, more than any competitor.

### **Oracle Corporation**

Oracle provides ERM solutions to customers with their Fusion Application Suite. The Fusion Platform has a GRC component that enables users to manage a variety of risks through various module compilations such as Risk and Financial Governance, Performance and Operational Controls, Access and Segregation of Duties (SOD) Controls. Part of the Fusion software line is Crystal Ball, Oracle’s predictive analytics product that utilizes a Monte Carlo simulator as a scenario-based risk assessment tool. This can be connected to existing

enterprise performance management and business intelligence applications to enhance risk and predictive analytics through Oracle’s Crystal Ball Enterprise Performance Management module. Their GRC Manager builds silo-specific risk databases and modules for utilization by appropriate leaders. This minimizes work redundancy and addresses cross-silo communication. The Fusion GRC Intelligence is a dashboard and reporting system utilized by executive level managers for decision-making. It is available as an “out-of-the-box” solution with pre-defined metrics for immediate use by customers. According to the same industry report by Panorama Consulting Solutions, Oracle is not short-listed more than SAP, but is chosen more than its competitors for implementation, 22% of the time. Implementation of Oracle ERP software takes 14 months and has the largest discrepancy between planned and actual implementation. Oracle has the highest budget overrun at 15%. Customer satisfaction is 80%, the highest by more than double of SAP and Microsoft Dynamics. However, among companies which realized 81%-100% of benefits, Oracle has the lowest benefit realization percentage. Oracle’s TCO is the middle ground in the Panorama report.

### **Microsoft Corporation**

Microsoft provides ERM solutions to enterprises through their ERP suite of software products called Microsoft Dynamics, and through subsidiaries and resell partners specializing in enterprise risk management. Microsoft does not provide risk management modules for small to mid-size businesses. Microsoft Dynamics AX provides global risk management as a built-in feature of its ERP solution for large enterprises. There is no standalone ERM or risk management software solution or

module. Microsoft utilizes local third party vendors to provide support in areas it may not cover. Microsoft has partnered with Fastpath Solutions, Inc. Fastpath Solutions offers a GRC application add-on called Fastpath GRC Studio. Microsoft has also partnered with Trintech, Inc. a provider of Unity Enterprise Risk Management software specializing in GRC as it pertains to finances.

### **IBM**

IBM provides ERM solutions to enterprises through their business intelligence (BI) product, IBM Cognos, and GRC software suite, IBM OpenPages. Cognos provides dashboards, scorecarding and reporting functions to decision-makers. OpenPages is a software suite that consists of a data aggregator called the OpenPages GRC Platform and OpenPages Operational Risk Management software that identifies, monitors, analyzes and manages operational risk for enterprises. OpenPages GRC Platform is built on Cognos Business Intelligence and powered by IBM AIX operating system to enhance reporting and handle unique company risk management techniques and practices. The acquisition of PwC allows IBM to leverage their products through the largest professional service conglomerates in the world.

For Business Inquiries:  
Contact: Carl Wimmer  
[carl@makesence.us](mailto:carl@makesence.us)  
Mobile: (702) 767-7001

### **Sage**

Sage provides ERM solutions to enterprises through the Sage National Continuity Solutions Platform. Sage is the primary provider of risk management and automation software solutions to small businesses. Executive dashboard includes key risk indicator (KRI) monitoring, and results of threats and contingency plans. Enterprise objectives are met by aiding in the development of risk assessment surveys and risk scoring through the E-Survey Engine, security vulnerabilities and threats, as well as internal control risk remediation and mitigation.

### **Palisade**

Palisade's top-selling product is @Risk, risk assessment software utilizing a Monte Carlo simulator based in Excel to provide hazard and financial risk mapping and modeling with powerful predictive analytics capabilities. The software discovers risk probability and magnitude utilizing normal, lognormal, uniform, triangular, PERT and discrete distribution methods. @Risk is utilized by all of the Big Four professional service giants: PwC, Ernst&Young, KPMG and Deloitte.

For Technical Inquiries:  
Contact: Mark Bobick  
[m.bobick@correlationconcepts.com](mailto:m.bobick@correlationconcepts.com)  
Mobile: (702) 882-5664

[This dossier was researched and written by Arnel O. Alicea [a.alicea@correlationconcepts.com](mailto:a.alicea@correlationconcepts.com)]

## Strengths, Weaknesses, Opportunities, and Threats Analysis of GRC Vendors

Strengths	SAS	Sword Achiever	Mega	Cura	Enablon	Palisade
Technical Skills	Engineers are very competent and articulate in explanation of software processes, shortening the training curve		Highly skilled technicians that adhere strongly to company vision for product development. All solutions are customized with aid from Mega consulting service employees	Simplified user interface to minimize training durations and need for specialized software technicians		Moderately complicated to understand without consulting services and training, but easy to use once learned
Brand Recognition	Well-known for applying a risk-centric view throughout all GRC-related products					Used by the Big 4 auditing giants: Ernst & Young, PwC, Deloitte and KPMG. Also used by insurance, actuarial, oil and other key industries
Overall Product Quality			Excellent product alignment of risk to business processes. Product implementation duration can be extensive due to modular build. Modular product builds enhance adaptability of implementations to enterprise requirements	Best overall ERM product quality in this report		Top risk assessment software
Governance Capabilities		Above average policy life cycle management	Partnerships provide advanced offerings above basic governance components		Good governance capabilities that support sustainable management practices	None
Dashboard Control Capabilities	Automated KRI and KPI monitoring with good visualization capabilities		Automated KPI and KRI monitoring with a specialized overview evaluation tool for risk managers and decision-makers	Dashboard capabilities are easy-to-use, comprehensive and have great functionality and visualization capabilities		None
Modular Function Add-ons	Offers a wide variety of GRC-related products and functions such as reputational risk products centered around social media analytics		Entire GRC suite of products can be added piece by piece as necessary. Partnerships provide a wider variety of solutions for clients if deemed necessary	Modular build allows flexibility of solutions to customer needs	Six modular builds provide the full scope of GRC solution	Evolver, DecisionTree for system "learning" and root cause analysis to minimally aid decision-making
Platform Quality			Relies on SAP BusinessObjects for integration, reporting and analysis for risk to business process functions	Tight integration with SAP BusinessObjects platform. Acts as a mediator transforming individual silo inputs into homogeneous outputs that can be utilized throughout enterprises		Application only, no platform
Audit Management Capabilities			Partnerships with third party vendors provide comprehensive solutions to meet client needs			None

## Strengths, Weaknesses, Opportunities, and Threats Analysis of GRC Vendors

	SAS	Sword Achiever	Mega	Cura	Enablon	Palisade
<b>Strengths</b>						
Compliance Management Capabilities		Compliance is the strength of SA. Prior to entering the GRC market share, SA was a strong EH&S and ISO application for process industries	Partnerships with third party vendors provide comprehensive solutions to meet client needs		Provides advanced compliance functions with some gaps in in-depth compliance standards content	None
Risk Management Capabilities	Strong ORM and general risk analytics such as predictive and descriptive analytics		Addresses risk management as the driving force behind business processes. Partnerships offer solutions that fill in gaps in ORM, and risk analytics and content	Very strong risk management capabilities, with specialized focus in ORM and quantitative/qualitative analysis		Strong Monte Carlo-based risk analytics software with equally strong predictive analytic technology
Reputation	Well-known for analytics focusing especially on risk management. Also includes strong BI, ERP and EPM products	SA is a niche player in the GRC market share. High R&D budget aligns with expedited product upgrades to improve weak areas				Recognized among large, medium and small enterprises to be the best risk assessment software for use in any enterprise
Competitive Pressure	Specialization in banking, insurance and electrical utilities			Strong product suite and intense risk management capabilities combined with high customer satisfaction ratings position Cura among market leaders	Stable customer base allows newly developed risk modules to be sold to known clients	No other automated risk assessment software has the capabilities that @Risk software provides its customers
Technology	Monte Carlo simulator combined with multiple proprietary algorithms		Based on strong SAP BusinessObjects system integration and strategic global partnerships	Gaps in technology being filled by a recent strategic partnership with SAP BusinessObjects	Product has good software architecture on which to build advanced risk functions. High marks for technology from several industry reports	Monte Carlo simulator with a strong algorithm for @Risk's probability distribution system
Customer/Client Satisfaction	Customers give high ratings to risk management products	Customers are satisfied with SA product legacy in compliance	Mega solutions are utilized by approximately 75,000 users worldwide in a variety of Fortune 500 companies	Cura products often exceed customer expectations and customer satisfaction with the company remain high	Barring weak customization options for GUI interface and some gaps in standards content and compliance, overall product has high satisfaction ratings	As a risk assessment tool it is the best in its class. However, it does not have any primary GRC/ERM functions
Quantitative Capabilities	Strong quantitative capabilities for risk management functions		Strong loss distribution approach and Monte Carlo simulations combined with Advanced Measurements Approach	Strong quantitative algorithms and analytic capability with a wide variety of tools for customizing data displays		Strong quantitative capabilities for risk analysis, predictive analytics and decision tree functions
Market Leadership	Despite strong risk-centric GRC tools, SAS is more of a periphery competitor than a market leader		A 2009 Yphise report named Mega GRC as the "best solution for integrated risk management and control"			Top risk assessment software in the US

## Strengths, Weaknesses, Opportunities, and Threats Analysis of GRC Vendors

Strengths	SAS	Sword Achiever	Mega	Cura	Enablon	Palisade
Software Focus	Risk management with emphasis on ORM and analytics. Legacy in these concentrations play to market shifts towards ERM and away from tactical audit and compliance		Risk-centric with regards to tie-ins to business process management with strong secondary competencies in other GRC disciplines	Heavily risk-centric with particular focus on ORM and predictive risk analytics		Has a comprehensive out-of-box solution specifically geared to address risk assessment singularly. However, lack of other key GRC/ERM tools or dashboards makes @Risk an incomplete solution to business needs
Implementation Benefits	Strong GRC application offerings that cover a wide range of enterprise functions from resource planning to business intelligence applications		High expenditures on R&D transfer to rapid responses on bugs and upgrades for targeted industries	New software version has been significantly augmented to address issues with prior versions and specific customer needs		Ability to assess and monitor risks as well as predict risk impacts on enterprise revenue. Strong analytical tools as well
Software Assistance to manual ERM Functions			Specific ERM solution based on COSO II framework. ERM solutions are very decision-maker focused	Assists enterprises in GRC, information security risk management, operational risk management, incident risk management, quantitative risk modeling and business continuity management		Comprehensive risk-focused software aids in the risk assessment functions of ERM, holding true to providing aid to ERM best practices
Research and Development	22% of annual revenue channeled to research and development	High percentage of revenue goes to R&D and frequent product upgrades	Solid investment in R&D			

Strengths, Weaknesses, Opportunities, and Threats Analysis of GRC Vendors						
Weaknesses	SAS	Sword Achiever	Mega	Cura	Enablon	Palisade
Technical Skills					Software controls more rigid than major competitors	
Brand Recognition		SA has had little success expanding its brand beyond its recognition as a solid ISO and EH&S compliance product	Difficulty penetrating North American markets	Although Cura is recognized as a major competitor by multiple industry reports, it is not yet recognized as a leader	Brand traditionally recognized for QEHS. Getting more recognition currently for growing for GRC functions	
Overall Product Quality	High quality risk management capabilities. However, poor platform and basic functionality in other key areas of GRC/ERM	Basic core functionality in all GRC capabilities. Strong ISO and EH&S regulatory compliance functions			Basic foundation has been laid for a more aggressive push into the GRC market space. However, risk functions and content are not on par with industry leaders. Considered by several industry reports to have the potential to become competitive if products are upgraded	
Modular Function Add-ons		Non-compliance modular functions are weak due to poor domain expertise				
Platform Quality	Platform does not meet the needs of advanced management functions	Platform is satisfactory for current product offerings. Needs to be improved to support advanced functions				
Governance Capabilities	Standard functionality, relies on partner integration for advanced management requirements			Reporting and other governance functions for large enterprises are hindered by less than par reporting capabilities, especially with regards to roll-up support		
Dashboard Control Capabilities		Tool functions are basic. SA lacks the flexibility to manipulate data as found in competitor applications				
Audit Management Capabilities	Standard functionality, relies on partner integration for advanced management requirements	Risk-modeling for audit functions insufficiently grasp the extent to which risks are interconnected with business processes		Deemphasized focus on audit management functions in favor of stronger risk management functions	Industry-standard audit functions	
Compliance Management Capabilities	Standard functionality, relies on partner integration for advanced management requirements	Considered a niche player in the GRC vertical market		Deemphasized focus on compliance management functions in favor of stronger risk management functions		

Strengths, Weaknesses, Opportunities, and Threats Analysis of GRC Vendors						
	SAS	Sword Achiever	Mega	Cura	Enablon	Palisade
<b>Weaknesses</b>						
Risk Management Capabilities		Poor understanding of ERM and the relationship of risk to business processes are apparent in solution builds			Covers entire risk cycle from identification to reporting to treatment but lacks in-depth risk content and advanced functions	
Reputation				Cura operates primarily outside of Europe and North America, the two biggest GRC/ERM markets	Large client base in the US and Europe. Not very well-known in the Asiatic region	
Competitive Pressure			Seeking to gain a bigger chunk of the vertical market share by growing its offerings organically and inorganically. However, lack of success in North America can be attributed to poor understanding of market and market strategy execution			
Customer/Client Satisfaction	Less than 125 GRC customers, although sales growth is increasing					
Market Leadership		Weak offerings beyond compliance and policy management makes SA a periphery competitor			Not considered a primary competitor by various industry reports	
Qualitative Capabilities	Qualitative values must be manually transformed into quantitative values for use. Although an industry standard this introduces bias and human error into data - which effects the reliability of quantitative-based system outcomes			Most reports point to strong qualitative capabilities. However, emphasis on Monte Carlo simulations and weaknesses in the general field of qualitative analysis as a whole place Cura's qualitative capabilities in the "Weaknesses" sector of this report		Qualitative values must be manually transformed into quantitative values for use. This is an industry standard that is viewed by this report to manipulate and introduce human error into data which effects the reliability of quantitative-based system outcomes
Software Focus		Compliance focused. Basic offerings on total GRC package. Poor framing of the ERM and risk worlds evident in software offerings			Product strengths are in QEHS capabilities, not risk management	
Implementation Benefits		As a total GRC/ERM offering, SA not a strong contender, despite its strength in compliance and policy life cycle management				

Strengths, Weaknesses, Opportunities, and Threats Analysis of GRC Vendors						
Weaknesses	SAS	Sword Achiever	Mega	Cura	Enablon	Palisade
Software Assistance to ERM Functions	Software greatly aids in reporting capabilities. However, manual processes still determine critical analysis of qualitative and quantitative	Minimal, especially when compared to advanced offerings by competitors			Although Enablon provides a software product that provides common GRC functions, it is not a risk-centric software suite	
Technology		Constant upgrade cycle may engender concern on technological capabilities				

Strengths, Weaknesses, Opportunities, and Threats Analysis of GRC Vendors						
	SAS	Sword Achiever	Mega	Cura	Enablon	Palisade
Opportunities						
Prospects			Mega's prospect initiative is based on expanding partnerships with third party vendors. This may increase customer base and may lead to rapid market growth			Insufficient public data was available on Palisade Corporation to complete the "Opportunities" column of this analysis
Market Growth					Although expansion into Asian markets has not been on par with expectations, western expansion in key markets such as the UK, US and Canada has increased market share and growth	
Product/Service Development			High R&D investments provide continuous upgrades to solutions and rapid response to user issues			
Product Line Expansion	High R&D budget may lead to more GRC-related offerings to clients, increasing sales, market share and revenue					
Global Environment	Global presence supports GRC products available in 15 languages which may increase client satisfaction and improve global competitiveness.		Global presence aggressively targets direct sales and provides support in regions of operation. Strategic partnerships are utilized to further expand sales and support which may lead to increased market share and customer satisfaction		Expansion within UK, US and Canada has gone well. Increased customer base will bring in new revenue to finance further global or technological expansion	
Competitive Edge			Provisioning customers with such broad solution options in tandem with partner offerings give Mega an advantage in flexibility	Comprehensiveness of new product version has impressed critics and given Cura a robust tool by which to capture market share and become an industry leader	Massive user and customer base, along with successful expansion strategy in the western hemisphere will increase revenue stream and market share	
Technology			Continued investment in R&D will continue to strengthen position in market and may lead to more advanced internal offerings which may aid in penetration of the North American market share	Strength of new product version may prove to be the point by which penetration into US and European markets is achieved		
Horizontal Integration			Mega seeks to strategically partner with companies to expand customer base		Enablon utilizes strategic partnerships to expand sales in countries with little or no direct presence	

## Strengths, Weaknesses, Opportunities, and Threats Analysis of GRC Vendors

	SAS	Sword Achiever	Mega	Cura	Enablon	Palisade
Opportunities						
Vertical Integration	SAS provides a full range of products within parallel GRC-related vertical market such as BI and CCM. Such a wide range of offerings may increase GRC implementation rates if clients remain highly satisfied with SAS products		Mega seeks to strategically partner with companies to expand product line and increase flexibility of offerings			
Cultural Shifts	Shifts away from tactical compliance and auditing and towards ERM with focus on ORM and process management plays to SAS risk-centric offerings.		Mega's strategy focuses on offering risk to business process solutions and consulting, delineating other GRC focuses to global partners. Since the market is shifting toward ERM, this strategy is currently viable		Enablon seeks to capitalize on its successful expansion, sales and positive industry reviews to generate interest in its strategy to market its products as aiding in business sustainability processes and management	
Business Cycle	ERM is the top CEO concern for 2012, giving SAS a competitive edge		Industry and regulatory focus on ERM play to Mega's strengths and strategic vision			

## Strengths, Weaknesses, Opportunities, and Threats Analysis of GRC Vendors

	SAS	Sword Achiever	Mega	Cura	Enablon	Palisade
Threats						
Prospects	Targets in key industries are currently limiting SAS success in the vertical market. Decreased marketing and sales to other industry prospects will continue to limit market share and revenue stream regardless of sales growth			Prospect initiative into US and European markets is sluggish, due in part to the acquisition by Softpro Systems, and the failure of the acquisition to translate opportunity from the merger into sales in key regions	Expansion strategy targets Asian markets through direct sales, acquisitions and/or partnerships. However, more progress has been made in the western hemisphere. Failure to adapt Asian expansion strategy may inhibit Asian market growth and product success in the region	Insufficient public data was available on Palisade Corporation to complete the "Threats" column of this analysis
Market Growth	Failure to target and aggressively market to larger sections of the vertical market may decrease or slow market growth	Lack of success in expanding customer base may severely hamper growth in target regions	Grows market share through resellers around the world. Has yet to show significant inroads in North American markets	Confusing market strategy has made penetration into the American and European markets difficult which may limit and slow growth in prospective markets		
Product/Service Development	Failure to upgrade platform and internal GRC applications may increase reliance on partnerships for GRC functionality which could increase costs to clients	Products are not comprehensive enough to compete with major players. Without further R&D, market share may be lost		Product sales have mostly targeted regions of operations such as South Africa and Austrilia. Failure to extend viable solutions to larger markets may inhibit growth or lead to loss of market share and revenue	Failure to develop GRC software solutions along with primary products such as QEHS offerings may limit comprehensive coverage of enterprise risk management	
Product Line Expansion		Must improve solution capabilities, especially in risk fields. Basic offerings are on the same level as or lower than industry status quo	Reliance on third party vendors may limit scope of R&D investment on product line expansion	ERM software offerings are very specialized and need to be expanded to other key competencies such as strategic risk management	Risk management modules are still niche product offerings which may inhibit ability to compete with major risk-centric products	
Global Environment				Strong presence in south Asia, Africa and Austrilia must be augmented by penetration into new, larger markets. Failure to do so will limit growth and profits		
Competitive Edge	Shift towards ERM plays to the strengths of SAS offerings. However, if SAS mishandles this advantage due to concentration in target industries, strong competitors will jump into the market with similar offerings	Has not revealed any significant competitive edge to maintain position in the market				

## Strengths, Weaknesses, Opportunities, and Threats Analysis of GRC Vendors

	SAS	Sword Achiever	Mega	Cura	Enablon	Palisade
Threats						
Technology		Company technology will continue to suffer if significant time and resources are not spent developing a more comprehensive view and understanding of risk and tie-ins to other GRC functions			Failure to expand and develop product offerings along with strategic global expansion may reduce customer satisfaction	
Horizontal Integration	SAS is highly reliant on partnerships to provide clients with advanced functions which may make them susceptible to impact from adverse events experienced by partner clients					
Vertical Integration				Acquisition of Softpro Systems should have strengthened US and European market positions with its GRC-related product offerings. However, it has not developed aggressive or comprehensive market penetration strategies		
Cultural Shifts		Lagging software development in risk management solutions may increase deficits in direct competition with major players		Despite the quality product, Cura's failure to fully penetrate the US and European markets may limit its competitiveness and raise the barriers to gaining significant market share		
Client/Customer Rapport	Few clients worldwide may limit the success of deserved word-of-mouth promotion. Without a stronger marketing campaign SAS may experience slow growth and loss of market share		Sales target risk to business process issues within enterprises while other GRC functions become lesser selling points. This deemphasizes the comprehensiveness of Mega's GRC suite which may lead to fewer sales and increased barriers to entry in the North American market		Clients and customers are currently satisfied with product offerings that are outside of risk management solutions. Failure to address this concern may lead to decreased client and customer satisfaction	

Strengths, Weaknesses, Opportunities, and Threats Analysis of GRC Vendors						
Threats	SAS	Sword Achiever	Mega	Cura	Enablon	Palisade
Business Cycle		With ERM becoming the primary use for GRC software solutions, SA may not be able to gain competitive edge if it continues to fall behind in key risk competencies		As the industry focuses on ERM, penetration into key ERM/GRC markets is crucial to maximize market share and profits	Western industries are increasing focus on comprehensive and advanced GRC offerings. Enablon may lose the opportunity to utilize positive GRC product reviews if product development does not meet the requirements of clientele or potential customers	
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## Strengths, Weaknesses, Opportunities, and Threats Analysis of ERP Vendors

	SAP AG	Oracle	Microsoft	IBM	Sage	Palisade
<b>Strengths</b>						
Technical Skills			Easiest to deploy from a technical and training standpoint	Easy to deploy as plug-and-play modules		Moderately complicated to understand without consulting services and training, but easy to use once implemented
Brand Recognition	High brand recognition among blue chip companies for ERP and GRC. ERP suite short-listed at higher rates than Oracle or Microsoft	High brand recognition in ERP vertical market sector. Short-listed 2nd highest among SAP and Microsoft. Ranked top OpRisk vendor in the 2009 OpRisk & Compliance reader survey			Largest provider of ERP software to small and medium-size businesses (SMBs). Provider of software solutions since 1981, ranked 'best performing share of the 90's' in the UK in 2000	Used by the Big 4 auditing giants: Ernst & Young, PwC, Deloitte and KPMG. Also used by insurance, actuarial, oil and other key industries
Internal Operations			Lowest difference between planned and actual implementation durations among competitors	IBM OpenPages and Cognos are easily integrated into existing enterprise architecture	Most companies that took approximately six months to select Sage were able to implement solutions within 12 months	Easily installed onto enterprise systems as SaaS
Customer/Client Loyalty		Highest rate of selection for implementation out of Tier I products	Second highest rate of selection out of Tier I products	The OpenPages acquisition brought over clients that stayed with the IBM-led solution	Sage serves 6.1 million customers worldwide across an array of key industries	
Product Quality	High rated ERP functions include: product development, out-of-the-box processing support, retail integration module, visibility of transient merchandising, quality control and assurance, cash management, and compliance	High rated functions include: finance and accounting, complex pricing, e-portal, IT architecture, product configurator, and production operations			As an ERP system, Sage is not an effective integrator of systems or external tools. It is a moderately reliable data aggregator. As a management system however, Sage solutions are very successful in providing management with the right tools to make better decisions	Strong Monte Carlo-based risk analytical software with equally strong predictive analytic technology
Reputation	Biggest player and name in the Tier I ERP vertical market. One of the top competitors in the GRC market share as well	Although Oracle is more publicly known more for database and hardware products and services, its GRC software solutions rank second to only CIMCON in Operational Risk & Regulation Magazine's 2012 survey		IBM is one of the most recognized companies in the world and has been in operation since 1911. IBM has always managed to stay fluid and evolve with changes in the market and retain superior talent, especially in engineering and research	Sage is well-known for providing scalable software suitable for first-time SMB implementations	Recognized among large, medium and small enterprises to be the best risk assessment software for use in any enterprise
Competitive Pressure	Extremely adept at anticipating or evolving with client needs and market	Extremely adept at evolving to changes in market and client needs. A direct challenger to SAP's market leadership	Microsoft Dynamics product suite, although new, competes through ease of use, ease of implementation and recognizability of user interface and OS. Tier II and Tier III applications are also well-known and utilized by SMBs		Sage has a firm hold on the SMB market share for ERP implementations	No other automated risk assessment software has the capabilities that @Risk software provides its customers

## Strengths, Weaknesses, Opportunities, and Threats Analysis of ERP Vendors

	SAP AG	Oracle	Microsoft	IBM	Sage	Palisade
<b>Strengths</b>						
Technology	Very powerful ERP software. Gartner's Quadrant ranks SAP among the leaders for basic compliance and risk assessment requirements as well as a high functioning GRC platform					Monte Carlo simulator with a strong algorithm for @Risk's probability distribution system
Software Implementation		Selected for implementation an estimated 34% of the time when short-listed. Approximately 18 month implementation period	Selected for implementation an estimated 32% of the time when short-listed. Approximately 13 month implementation period		High selection for implementation among SMBs. Short implementation period, typically under a year	Implemented among the Big 4 auditing firms and Fortune 500 companies as well as SMBs
Customer/Client Satisfaction		Oracle has the highest satisfaction rating at 80%			80% client satisfaction rating among SMBs	As a risk assessment tool it is the best in its class. However, it does not have ERP capabilities or any other ERM/GRC functions
Market Share	Controls largest market share among Tier I ERP competitors with 22%	Controls second largest market share among Tier I ERP competitors with 15%	Controls third largest market share among Tier I ERP competitors with 10%	IBM controls 12.1% of the BI market share, fourth highest market share according to Gartner		
Total Cost of Ownership			Microsoft Dynamics is constructed to reduce the total cost of ownership and shorten implementation durations			
Quantitative Capabilities	Utilizes a strong probability distribution algorithm with its Monte Carlo simulator	Has the best Tier I all-around quantitative predictive analytics and multiple-focus risk applications		Strong quantitative features backed by IBM's integrated business intelligence platform		Strong quantitative capabilities for risk analysis, predictive analytics and decision tree functions
Market Leadership	Leads all Tier I ERP software in market share	Leads all Tier I ERP software in satisfaction and implementation rates. Third largest global software company in terms of revenue	Second largest global software company in terms of revenue	Fourth highest market share and revenue share in the BI industry	Third largest ERP software provider in the world. The largest ERP software provider to SMBs	Top risk assessment software in the US
Software Focus		Oracle has the most risk focused software of the three major competitors. Its strength comes from silo-specific risk databases resistant to redundancies. However, as a GRC-based software, most risk procedures are focused on reporting and compliance, not true enterprise risk management				The only completely risk-based software solution in this report. However, lack of resource planning and comprehensive management tools or dashboards makes @Risk an incomplete solution to business needs

## Strengths, Weaknesses, Opportunities, and Threats Analysis of ERP Vendors

	SAP AG	Oracle	Microsoft	IBM	Sage	Palisade
<b>Strengths</b>						
Most Benefits Realized			13% of clients realized most benefits from implementation		80% of companies with Sage implementations reported significant improvement, and 75% linked such improvement to operational processes	
Implementation Benefits					Clients reported Sage solutions to have good functional range and flexibility to enterprise needs	Ability to assess and monitor risks as well as predict risk impacts to enterprise revenue. Strong analytical tools as well
Software Assistance to ERM Functions				Both OpenPages and Cognos are the centerpieces to IBM's new focus on business analytics which incorporates best enterprise risk management practices		Comprehensive risk-focused software aids in the risk assessment functions of ERM, holding true to providing aid to ERM best practices
GRC Suite	Re-worked GRC platform and fixed bugs in integration to package a stronger GRC suite with multiple tools for clients of all sizes			OpenPages is being re-worked to provide stronger risk analytics. Gartner Quadrant reports no significant gaps in product strategy. Strong risk management capabilities		
Technical Skills	Requires technicians and product developers with high level of expertise for implementation. Technical issues arising from implementation doubled from 7% to 14%, leading to extended implementation durations.	Slightly less problematic technically than SAP's implementation. Still requires a longer duration for implementation due to training and technical issues			Moderately difficult to implement technically and from a training standpoint	
Brand Recognition			Microsoft only recently moved into ERP market in 2000 serving SMBs. Started serving large enterprises in 2002 to gain vital market share	IBM's desire to expand into the business analytics market share, which includes ERM/GRC software products was only recently publicized. Their aim is to make analytics a mainstream process for enterprises. However, they've made significant headway only through an aggressive acquisition policy		

## Strengths, Weaknesses, Opportunities, and Threats Analysis of ERP Vendors

	SAP AG	Oracle	Microsoft	IBM	Sage	Palisade
<b>Weaknesses</b>						
Internal Operations	Implementation duration often extended due to organizational, data, resource, training and vendor functionality issues	Largest difference between actual implementation duration and planned implementation duration among competitors				
Customer/Client Loyalty	Clients have reported difficulty seeing the value in implementing SAP software					
Product Quality			High rated functions include: company support, multicurrency and localization, inventory tracking, financial transaction, MRP, and trade. However, poor risk assessment and control functions	As an independent company, OpenPages had been criticized by some reviewers as "huge vaporware" - a lingering issue for IBM to overcome		
Reputation			Microsoft acquisitions and their product lines have been absorbed by the Dynamics product suite. Microsoft does not have a strong GRC ranking in most industry publications. Further, Microsoft does not have a strong internal GRC or ERM product suite. Instead, it relies on third party software vendors			
Competitive Pressure				IBM is a leader in the business analytics market share and seeks to expand its influence by spearheading technological innovation. However, OpenPages and Cognos is a relatively new entry into the market		
Technology		GRC customers cite quantitative risk assessment, risk content and reporting as areas needing improvement	Dynamics product suite was acquired, not built internally. It is not the most powerful ERP software on the market and lacks proper innovative vision	OpenPages is a GRC software with standalone operational risk management modules. However, issues are still being worked out since the acquisition in 2010. IBM seeks to make OpenPages a solid mainstay as the ERM component to IBM's Cognos Business Intelligence product suite	ERP solutions are strongest in management of sales and logistics. General management functions are middle rung. Risk assessment functions seem to be almost an afterthought	

## Strengths, Weaknesses, Opportunities, and Threats Analysis of ERP Vendors

	SAP AG	Oracle	Microsoft	IBM	Sage	Palisade
<b>Weaknesses</b>						
Software Implementation	Selected for implementation an estimated 28% of the time when short-listed. Approximately 17 month implementation period					
Customer/Client Satisfaction	39% satisfaction rating		33% satisfaction rating	Clients are having issues with technical support post-implementation, purportedly due to restructuring of customer service post-acquisition		
Total Cost of Ownership	Most expensive TCO in this report				72% of clients did not approve the TCO when considering Sage for implementation	
Quantitative Capabilities			Weakest quantitative capabilities due to recent market penetration and inorganic growth and limited technological innovation in the risk field		Standard quantitative methodology. Run-of-the-mill risk assessment processes with outstanding dashboard capabilities	
Qualitative Capabilities	All qualitative information must be manually converted into quantitative metrics for use	All qualitative information must be manually converted into quantitative metrics for use	All qualitative information must be manually converted into quantitative metrics for use		Standard transformation of qualitative data into quantitative data necessary for automation	Qualitative values must be transformed into quantitative values for use in simulator which introduces error
Software Focus	Primarily focused on supply chain management and resource management. Risks must still be identified by manual processes according to appetite risks. Risk response is based on the ability of the software to highlight risks chosen through manual processes that have reached critical mass		The least risk focused ERP software in this analysis. Microsoft is known for non-organic growth which sometimes hampers innovation. Partnered with independent companies, Microsoft's risk management view is more focused on financial risk management as opposed to true enterprise risk management	OpenPages is a GRC software with standalone operational risk management modules. However, as with most GRC software products, the focus is not on risk management but on reporting first, followed by governance	Sage ERP software solutions are focused on improving operational management processes. However, solutions are not risk-based but angled more towards governance and reporting	
Most Benefits Realized	10% of clients realized most benefits of implementation	3% of clients realized most benefits of implementation				
Implementation Benefits	Availability of information created by implementation is excellent. However, implementation failed to properly integrate silos, decrease manual processes, or improve time management	Availability of information created by implementation is excellent. However, implementation failed to properly integrate silos, decrease manual processes, or improve time management	Availability of information created by implementation is excellent. However, implementation failed to properly integrate silos, decrease manual processes, or improve time management			

## Strengths, Weaknesses, Opportunities, and Threats Analysis of ERP Vendors

	SAP AG	Oracle	Microsoft	IBM	Sage	Palisade
Weaknesses						
Software Assistance to ERM Functions	Adds value to ERM functions by strong automation ability of KRI and KPI monitoring. However, KRI and KPI cannot be identified without manual selection processes	Risk assessment processes are primarily focused on governance and compliance, a true GRC software. Additional software applications aids in strategic decision-making but does not assess or monitor strategic risk above governance tiers	Microsoft does not provide a true risk management module to its Tier III clients. Tier I clients have risk management imbedded into ERP applications. Risk is not central to Microsoft Dynamics product suite and therefore only minimally aids in ERM functions		Sage solutions do not directly provide ERM solutions. Instead, strong governance and compliance functions are supported by standard risk assessment automation. Software is developed to boost operational management practices instead of enterprise management practices	
GRC Suite		Problems in key risk concentrations such as assessment, reporting and content overshadow client satisfaction with a modular GRC system build				

## Strengths, Weaknesses, Opportunities, and Threats Analysis of ERP Vendors

	SAP AG	Oracle	Microsoft	IBM	Sage	Palisade
Opportunities						
Prospects	SAP is now actively targeting Tier II and Tier III clients as opposed to strictly blue-chip enterprises which may increase market share and generate further revenue		Microsoft is using its capital to finance a stronger push into the ERP Tier I market share and expand its offerings to Tier II and Tier III companies	IBM is increasing its proficiency in the BI industry, perfecting OpenPages and Cognos capabilities. IBM is focusing on historical industry targets and expanding into the healthcare industry as well		Insufficient data was available on Palisade Corporation to complete the "Opportunities" column of this analysis
Market Growth				Forward-facing strategy anticipating the increase of executive focus on business intelligence may lead to increased market share and revenue stream	Sage's firm grasp on the SMB market share and its high customer satisfaction rating may lead to increased organic growth in the horizontal sector	
Product/Service Development		New Fusion platform and applications are easy to integrate with existing systems allowing for easier customization to client needs which may further increase customer satisfaction and increase market share				
Product Line Expansion		Strong GRC modules that are more risk focused than competitors have a better opportunity to gain traction with new clients seeking to integrate GRC functions into best ERM practices		The addition of OpenPages and Cognos as the flagship BI software product suites may solidify IBM's position in the market share	Sage's ERP product suite provides strong management features which may be key in expanding into the ERM market share	
Foreign Trade Environment	Headquartered in Germany, SAP may hold the edge in global expansion due to strong European presence and adherence to EU risk standards, which tend to be more stringent than its American counterpart				Headquarter in the United Kingdom, Sage has a strong presence in approximately 160 countries. This may provide a larger client base as competing markets expand	
Competitive Edge	Strong software and innovative leadership may be able to fend off mounting pressure by smaller companies more focused on ERM	Strong risk focused ERP software and innovative leadership coupled with strong position in software revenue share may allow Oracle to weather attacks by smaller companies on market share				

## Strengths, Weaknesses, Opportunities, and Threats Analysis of ERP Vendors

	SAP AG	Oracle	Microsoft	IBM	Sage	Palisade
<b>Opportunities</b>						
Technology		The Fusion applications and the ease of modification and integration gives Oracle a technological advantage that may lead to increased market share and customer satisfaction	Ease-of-use and user familiarity may be the reason Microsoft Dynamics is currently the fastest implementation duration time	OpenPages is poised to control a larger share of the GRC market share once final developments are complete		
Horizontal Integration	SAP grows organically, increasing profit stream by 370% since 2002	Oracle has spent an estimated \$40B USD acquiring competitors in a six year span between 2004 and 2010	Massive revenue may protect Microsoft by allowing it to aggressively acquire strategic targets in order to remain competitive	IBM has grown inorganically in the BI industry, aggressively acquiring competitors to keep up with Oracle, SAP, SAS and Microsoft	Sage grew organically up until the 2000's. Strategic acquisitions have expanded Sage's market share in many different industries	
Vertical Integration	SAP has partnered with a variety of global enterprises for Tier II and III platform and software development for prospective markets initiatives	Oracle produces and develops hardware and software internally as well as maintaining its own server and cloud databases		IBM has massive hardware and software development capabilities which may aid in the speedy development of OpenPages and Cognos		
Cultural Shifts	Historical willingness to evolve with changing markets and cultural shifts may stimulate innovative advances to defend position as leader in market share	GRC is focused on protecting assets and value. Enterprises of all sizes are turning their focus towards ERM to incorporate strategic management into risk management practices. Historically, Oracle has been able to evolve with changing markets to remain competitive with SAP		The US has begun to shift from GRC as a report-focusing practice to ERM, a risk-focused practice. All enterprise processes and practices will be tied to ERM making it the primary metric to business intelligence databases. OpenPages may give IBM a major advantage in the ERM and BI industries	Enterprises are expanding their interest in the management modules of software providers. Sage's strong management functions and proven improvements to clients may further solidify its position as SMB market leader	
Client/Customer Rapport		Oracle has the highest satisfaction rating of its competitors in the ERP market share which may further increase the implementation selection percentage among Tier I companies			High client satisfaction rating and good process improvement rating may further solidify position at top of SMB market share	
Business Cycle		With an increase in ERM interest, Oracle Fusion Middleware and its flexibility may make it a preferred pick for blue-chip companies looking for implementation		Business intelligence has become the primary focus of executives. If IBM can get OpenPages fully vetted before interest wanes, they may significantly increase market share and revenue stream		

## Strengths, Weaknesses, Opportunities, and Threats Analysis of ERP Vendors

	SAP AG	Oracle	Microsoft	IBM	Sage	Palisade
Threats						
Prospects		Failure to actively target Tier II and III clients may lead to loss of market share to competitors			Sage remains satisfied expanding its reach in the SMB market. Without a strategy to expand vertically, Sage may be exposed to significant risk from new competitors or swift changes in the SMB market	Insufficient data was available on Palisade Corporation to complete the "Threats" column of this analysis
Market Growth	Continued failure to be selected when short-listed may lead to reduced market share and revenue stream	Long implementation duration coupled with biggest difference in actual vs planned implementation times and low benefit realization may reduce market share, decrease short-list selection rate and reduce customer satisfaction	Continued failure to produce a higher percentage of realized benefits may slow market growth and open the door for competition on all Tiers			
Product/Service Development	Failure to reduce implementation time and increase customer satisfaction and benefit realization may reduce market share and lower barriers to entry for smaller competitors		Failure to provide an innovative internal solution that specifically acts as a standalone risk management program to all Tiers may lead to loss of market share and affect revenue stream	Without proper concentration on the development of OpenPages and Cognos prior to fully vetting implementation, IBM may suffer decreased customer satisfaction and loss of market share	Sage does not have a strong risk assessment offering with their ERP product suite. This may open the door for competitors with strong risk features to provide more comprehensive products to SMBs, threatening Sage's position as SMB market leader	
Product Line Expansion	Failure to correct issues with current product lines may lead to loss of position as leader in market share		Without a standalone or incorporated risk management software suite, the Microsoft Dynamics product line may not be able to compete efficiently with other software that provides such packages			
Foreign Trade Environment		Lack of a strong global ERM presence may raise barriers to growth and expansion of clientele		IBM has many international clients that are looking to utilize ERP/ERM/GRC suites to address risk and compliance issues. However, IBM is currently available in the US and Europe. Failure to expand to other markets rapidly may lead to loss of market share		

## Strengths, Weaknesses, Opportunities, and Threats Analysis of ERP Vendors

	SAP AG	Oracle	Microsoft	IBM	Sage	Palisade
Threats						
Competitive Edge			Microsoft's competitive edge is decreasing due to lack of innovation and slow-to-respond internal processes. Even with the push into the ERP market share, the best quality Microsoft has to offer is its familiarity to users, not its technology	Once OpenPages becomes a cohesive and fully absorbed unit under the IBM banner, IBM may have the upper hand technologically within the BI industry. However, if IBM fails to properly incorporate OpenPages into their BI offerings to clients, loss of market share may occur	Only 13% of companies with Sage implementations view the solution as a competitive advantage. Without better results, Sage may be at risk due to competitors who offer solutions that provide better competitive advantages	
Technology	Complex software engine and application capabilities are difficult to modify and difficult to integrate with existing systems, lengthening implementation times. This may lead to increased customer dissatisfaction and loss of lead market share position				For now superior management solutions are keeping Sage afloat. As enterprises start examining true ROI vs. TCO, Sage may have to put more capital into developing better ROI coupled with a lower TCO. This may significantly and negatively affect revenue stream	
Vertical Integration			When compared to its major competitors, Microsoft lacks the ability to produce hardware internally and must rely on third party vendors		Sage does not seem to be interested in expanding into the Tier I market share. If faced with a strong competitor in their own market, Sage may be forced to offer sub-par solutions to Tier I companies in order to maintain revenue stream	
Cultural Shifts	ERP software's shortfalls are being outlined in many industry reports and poor risk management functions leading to massive industry failures are being criticized in the mainstream media		The rise of Apple has led a shift away from Microsoft products. Although the majority of computers still carry the Windows OS, Microsoft may find Apple poised to enter other similar markets such as ERP			

## Strengths, Weaknesses, Opportunities, and Threats Analysis of ERP Vendors

	SAP AG	Oracle	Microsoft	IBM	Sage	Palisade
Threats						
Client/Customer Rapport	Poor ROI and high cost and time to implementation has lead to increased client dissatisfaction which may lead to accelerated loss of market share and revenue		Microsoft has been described as a declining power, behind on technological innovations, slow to produce new innovations internally and miles of red tape between project start and end dates. The company's response is still in question	If IBM cannot shift negative end user opinion of OpenPages since its acquisition, loss of market share may occur as well as slowed growth of BI initiatives. This may stall IBM enough to allow competitors to catch up via organic growth or through acquisitions		
Business Cycle	Businesses are now focusing heavily on GRC and ERM. This may grow the number of competitors in the GRC/ERM vertical market and lead to loss of market position due to dismal client satisfaction percentages		With interest increasing in ERM practices, Microsoft's failure to create or acquire a suitable product or service to respond to such interest may lead to reduced market share and slowing of growth among Tier I companies		As businesses expand their interest in enterprise risk management and ROI, Sage may find its weaker risk assessment tools to be ineffective at serving client needs	
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