THE COUNTY OF ORANGE
AUDITOR - CONTROLLER

ERP CAPS+ ANALYSIS – MARKET ASSESSMENT

Intueor   KPMG

MAY, 2022

Section 1. Overview of ERP Market Assessment

The County of Orange (hereby references as "the County") is analyzing their current ERP system (CAPS+) to determine its viability to provide all needed ERP functional capabilities of the County to meet the growing demands of business operations and modern-day best practice Finance and HR functions. As part of this effort the Intueor team performed a market assessment to understand key cloud ERP offerings, their pros and cons in relation to the County, and System Integrator options.

The team gathered available information on the enterprise resource planning application market to identify potential vendors that support core enterprise resource planning (ERP) implementations and fit-for-purpose business applications. The focus of this assessment was on those vendors that have a demonstrated market presence and have a clear strategic vision and comprehensive current product offering that can best support the County's requirements. The first step of the market assessment was to identify those cloud-based ERP application systems that could best support the County's requirements, and a general market scan was conducted to identify a preliminary system listing. The second step was to evaluate the pros and cons of each system and how those systems may meet the County's future state ERP needs. Finally, the team evaluated System Integrators and their market presence to give the County a sense of who may respond to a future RFP.

Section 2. Platform Considerations

As the County embarks on its planning for next steps, one of the key items to consider is whether or not the future state ERP will be an on-premise system or one hosted in the cloud supported by a Software as a Service (Saas) model. Increasing demand for real time data analysis, remote monitoring and predictive maintenance in various industries make the ERP system an essential component to the County's success and the model in which the ERP is supported is equally as important.

While an On-premise ERP offers more ability to customize system components, tighter control over application infrastructure and data access controls, the market and public sector is moving increasing towards the cloud SaaS model. The cloud model offers overall reduced infrastructure and maintenance costs, increased flexibility and scalability, shorter deployment timeframes and the ability to rely on service providers for ongoing updates. Further breakdown of the pros and of an on-premise solution versus a cloud solution are provided in Appendix A. The graphic below summarizes the key differences between the cloud and on-premise models. In considering a move to the cloud, the County will notice there are several options, a Public Cloud, Private Cloud or Hybrid. In a Public Cloud environment, the software is hosted on a platform that may be in use by several customers, whereas a Private Cloud is in use by only one. The County should consider regulatory requirements when selecting which cloud hosting option to select.

Figure 2.1 Hosting Options

According to Panorama Consulting Solutions 2019 survey, 64 percent of organization chooses Cloud ERP as preferred deployment option primarily due to reduced maintenance costs.				
Parameter	**Public Cloud**	**Private Cloud**	**Hybrid Cloud**	**On-premise**
Infrastructure	Hosted remotely and used by multiple customers	Hosted remotely and used for dedicated customer	Combination of public, private, and on-premise	Hosted on organizations' local server and systems
Customization	Very Limited	Yes	Yes	Yes
License Owner	Vendor	Vendor	Customer	Customer
System Updates	Quarterly updates, done by vendor	Quarterly updates, done by vendor	Annual updates, co-managed	Annual updates, done by customer
Maintenance Fee	Yes	Yes	Very low	No

Cloud ERP is offered to organizations through three options, **Public, Private and Hybrid Cloud Model**
- As per Panorama Consulting Solutions 2019 ERP Survey of 241 organizations, **21 percent** use **public cloud** model and **14 percent** use **private cloud** model
- Only **9 percent** of the surveyed organizations have opted for a **hybrid cloud ERP model**

On-premise is a traditional model where vendors provide organizations the software **installed on in-house servers**
- Panorama Consulting Solution's survey indicates that on-premise ERP is **deployed by 37 percent of the organizations in 2019**

The county should consider the pros and cons of each when deciding next steps. Based on the recommendation that the County select and implement a COTS ERP product, it is suggested that the County strong consider a move to a SaaS based model as part of that effort. The County may also consider how peer public sector organizations are approaching upgrades or replacements to their ERP platforms. The table below summarizes some recent peer initiatives.

Figure 2.2 Peer Comparison

Organization	Platform	On-Premise or Cloud	Last Upgrade
Capital Metropolitan Transportation Authority	Oracle	Cloud	2022
Cook County, IL	Oracle EBS	Cloud	Unknown
Port of Los Angeles	Oracle EBS	On-Premise	Moving to Oracle Cloud in late 2022
Broward County, FL	PeopleSoft	Cloud (Hosted)	Version 9.2 – no more upgrades, periodic service and feature releases.
City of Boston	PeopleSoft	Cloud (Hosted)	Version 9.2 – no more upgrades, periodic service and feature releases.

Organization	Platform	On-Premise or Cloud	Last Upgrade
City of Seattle	PeopleSoft	Cloud (Hosted)	Version 9.2 – no more upgrades, periodic service and feature releases.
Santa Barbara County	Custom developed	On-Premise	In process of moving to Workday
Broward County, FL	PeopleSoft	Hosted	Version 9.2 – no more upgrades, periodic service and feature releases.
Dallas County, TX	Oracle EBS	On-Premise	In process of moving to Oracle Cloud
City of Tucson, AZ	CGI	On-Premise	In process of moving to Workday
City & County of Denver	Workday	Cloud	NA – weekly service updates and feature releases.
Placer County, CA	Workday	Cloud	NA – weekly service updates and feature releases.

Section 3. Summary of Market Findings

Intueor's analysis did not include a detailed review of the CGI Advantage platform, as the County is familiar with the offering. However, CGI does offer a cloud offering that may help meet the County's future needs and should be considered as a viable option should the County proceed with a move to a SaaS model.

As show in the graphic below, A 'Magic Quadrant' for Cloud Core Financial Management Suites for Midsize, Large and Global Enterprises' research article published by Gartner on June 21, 2017 on the core financial management suites market as it transitions from traditional on-premises deployment to cloud services. This was Gartner's first Magic Quadrant for cloud core financial management suites and identified the following market leaders.

- Oracle (Oracle ERP Cloud)
- Workday

- Oracle (Oracle NetSuite)

- Inacct (Sage)

- Microsoft

Gartner followed this initial 'Magic Quadrant' with a June 2020 update that identified the following ERP providers (see Figure 1: Magic Quadrant for Cloud Core Financial Management Suites for Midsize, Large and Global Enterprises):

- Oracle (Oracle ERP Cloud)

- Workday

- Oracle (Oracle NetSuite)

- SAP

- Sage Inacct

- Microsoft

- FinancialForce

**Figure 3.1 Magic Quadrant Ranking**

Source: Gartner (June 2020)

A 'Market Share Analysis: ERP Software, Worldwide' research article published by Gartner on May 26, 2020 identified the top seven vendors in the ERP software market based on revenue, as summarized in the graphic below:

- SAP

- Oracle

- Workday

- Sage

- Infor

- Microsoft

- Ultimate (now UKG Pro after merger with Kronos)

- Visma (a leading European supplier)

- Kronos (now UKG Pro after merger with Ultimate)

Figure 3.2 Revenue Share
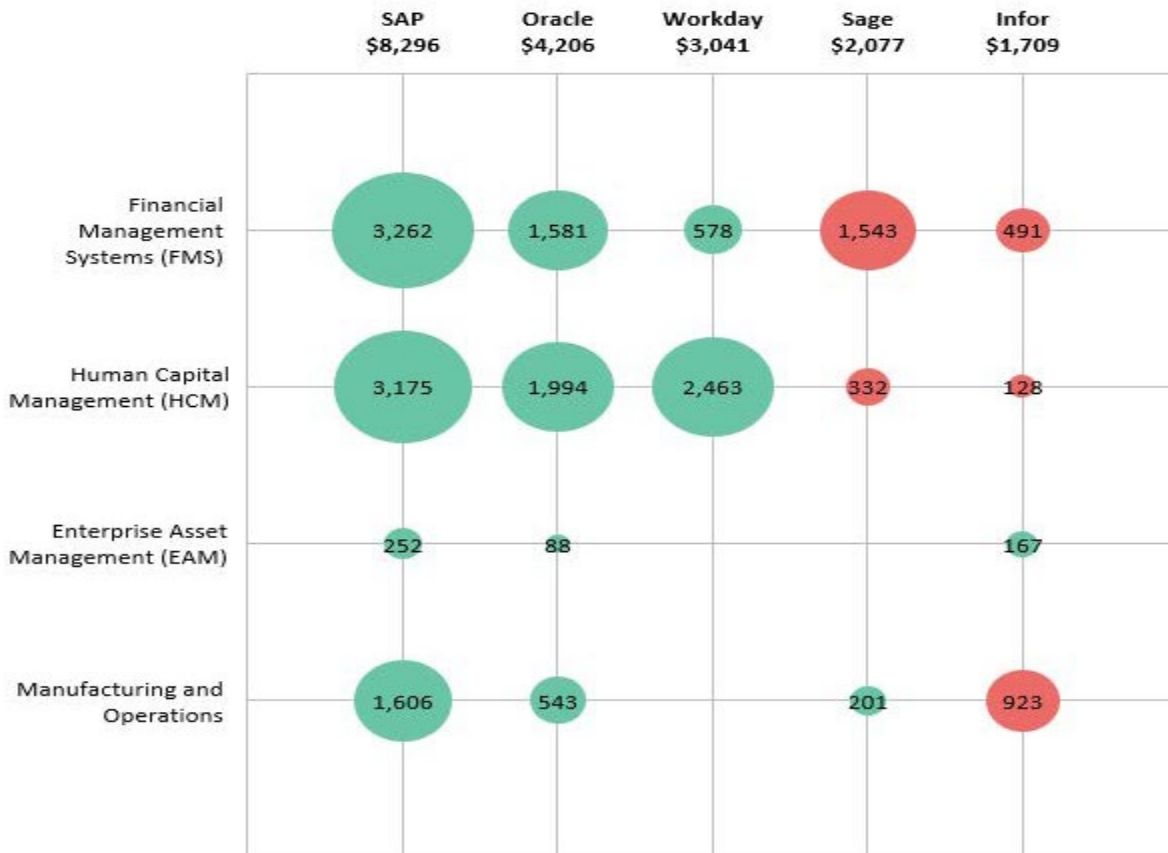
Source: Gartner (May 2020)
Note: The size of the bubble and value equal 2019 revenue (millions of U.S. dollars), and the color coding equals positive or negative year-over-year change. A green bubble represents positive change, and a red bubble represents negative change.

The Intueor team reviewed these results to identify key market players that will be applicable to the County's future needs. The consensus for the ERP application systems that were to be included in this group included:

- Infor CloudSuite Public Sector

- Microsoft Dynamics 365 ERP

- Oracle ERP Cloud

- Oracle NetSuite

- Sage Inacct Cloud

- SAP S/4HANA Cloud

- Tyler Munis ERP

- Workday

For the selected ERP application system providers an assessment was conducted that included:
- An overview of these ERP vendors in several key areas (where available):
    - Key statistics
    - Market perception
    - Key industries / clients served
    - Industry innovation and proprietary technology
    - Key partnerships
    - Eminence in the space
- Financial management platform capabilities
- Procurement management platform capabilities
- Strengths and weaknesses
- Key risk areas
- Case studies

The detailed market analysis data and all supporting documentation for the ERP application system observations below is provided in Appendix A. There were several high level observations made as a result of this assessment regarding these ERP application system vendors:

- Oracle Cloud ERP is characterized by multiple features, such as an Accounting engine and Intelligent supplier portal, to streamline finance and procurement process. Oracle Cloud ERP has been recognized as a Leader in Product-Centric Enterprise by Gartner Magic Quadrant for Cloud Core Financial Management Suites in 2020 along with Oracle NetSuite ERP (Leader), Microsoft (Visionary) and Infor CloudSuite (Honorary).

- Oracle NetSuite ERP offers single platform for managing Finance and Procurement functions, with built-in intelligence systems for decision making. The majority of the NetSuite clients are

mid-sized firms in various industries such as, Consulting, Information Technology, F&B, Financial Services, Health Care, Public Sector and Retail.

- Oracle NetSuite emerged as having strong financial and procurement capabilities offered by the solution including automation of accounts payable, accounts receivable, fixed assets, financial reporting capabilities, management of entire procure-to-pay process and supplier relationships.

- SAP S/4 HANA has strong procurement capabilities and was recognized as Leader in 2020 Gartner Magic Quadrant for Procure-to-Pay suites.

- SAP S/4 HANA has its highest score in procurement capabilities and is also recognized as Leader in 2020 Gartner Magic Quadrant for procure-to-pay suites. However, it lags in the financial features offered.

- Workday has significant experience in government and public sector, with robust capabilities in Cloud Financial Planning and Procurement

Workday also demonstrated an edge to other vendors in its experience in government and public sector and showcased a decent score in its financial capabilities, lagging behind only Oracle NetSuite and Sage Intacct.

Further, although Tyler Munis trails behind the vendors primarily owing to its presence primarily in the mid-size market, the company has an extensive experience in serving the US public sector, especially government agencies.

A summary comparison of these ERP application system vendors across some key decision factors usually considered for the selection of an ERP system provided a high-level ranking as illustrated in the graphic below.

Figure 3.3 Decision Factors and Weight

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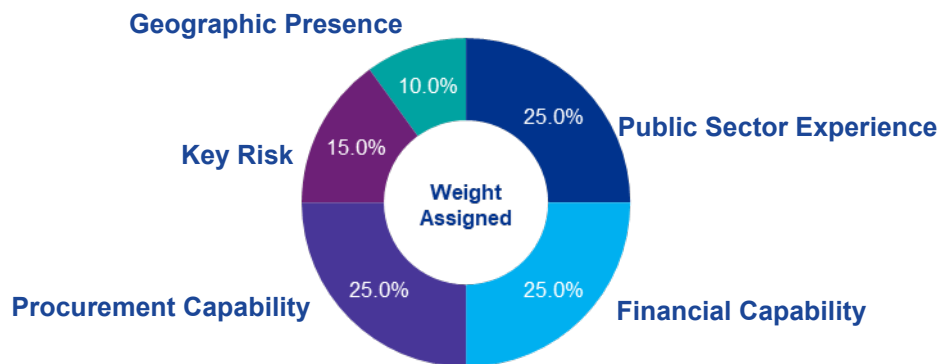
Figure 3.4 Decision Factor Scoring by Platform
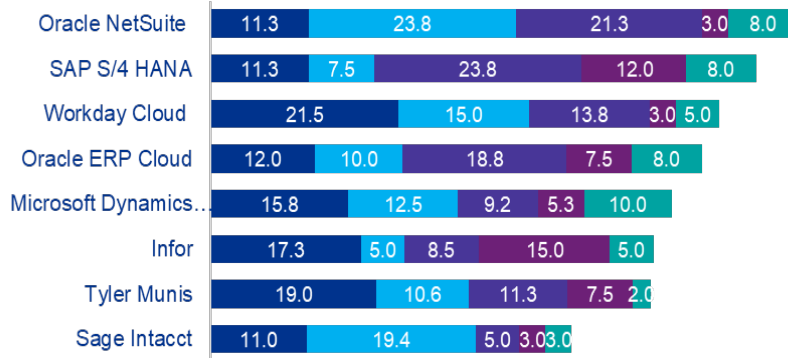
The systems integrator market was assessed by the Intueor team to identify potential system integrators (SIs) that have supported ERP solution implementations. The consensus for the SIs that were to be included in this group included:

- Deloitte

- Accenture

- IBM

- Cherry Road

- Tyler

A market assessment was conducted for these five SI vendors that included:

- Experience with ERP solutions (implementation case studies)

- ERP industry knowledge

The detailed market analysis data and all supporting documentation for the SI observations below is provided in Appendix A.

There were several high-level observations made as a result of this assessment regarding these SI vendors:

- Deloitte has ERP implementation partnership with major ERP vendors with solution specific certified consultants and practitioners.

- Accenture is strengthening its ERP industry knowledge and capabilities through acquisitions and partnerships with key vendors such as SAP, Oracle, and Workday.

- CherryRoad has 30+ years of experience in ERP implementation for private & public sector, federal governing authorities and not-for-profit organizations.

- The majority of Tyler's clients are Public Sector with a 98 percent client retention rate. Their Government ERP solutions are implemented in 4,500+ cities, countries, and special districts.

A summary comparison of SI vendor experience across the ERP application systems included in the alternative assessment is illustrated in the graphic below.

Figure 3.5 SI Vendor Experience

	Oracle	Sage Intacct	Workday	Oracle NetSuite	SAP S/4 HANA	Infor	Tyler Munis ERP	Microsoft Dynamics 365 ERP
Deloitte	✓	✓	✓	✓	✓	✓	✗	✓
Accenture	✓	✗	✓	✓	✓	✓	✗	✓
IBM	✓	✗	✓	✗	✓	✓	✗	✓
Cherry Road	✓	✗	✗	✗	✗	✓	✗	✗
Tyler	✗	✗	✗	✗	✗	✗	✓	✓

Source: KPMG analysis; Need to conduct detailed RFI to understand integrators' comprehensive partnerships and experience in ERP integration by solution

It should be noted that the information contained in this Enterprise Application Alternatives Assessment relies on available objective sources to provide a reliable alternative to vendor-generated materials, which may promote a particular enabling technology or vendor. While this assessment includes numerous vendors and market data for these vendors, the options available to the County will be determined by those vendors that respond to the RFP.

Section 4.   High level implementation roadmaps

The team developed high-level implementation roadmaps based on the County's requirements and priorities based on historical knowledge of SI vendor implementation processes and methodologies. An estimated implementation timeline has been provided for each ERP application system.

- Infor CloudSuite Public Sector

- Microsoft Dynamics 365 ERP

- Oracle ERP Cloud

- Oracle NetSuite

- Sage Inacct Cloud

- SAP S/4HANA Cloud

- Tyler Munis ERP

- Workday

These implementation roadmaps include the estimated time required for the individual components within the design, build, testing, and deploy stages as aligned in the a 13-month timeline to implement the financial and procurement ERP modules (excluding HR). If the County wishes to implement HR modules, the timeline may be extended depending on the SI's deployment approach.

Should the scope of the ERP application system implementation be adjusted (e.g., addition of additional modules, specific training requirements) then these estimated implementation schedules would also need to be adjusted accordingly. Each application system implementation can be a different experience based on the scope and size of the organization, as KPMG has implementation of Oracle Cloud ERP span 18 months while some limited scope Workday implementations have been completed within six months.

Figure 4.1 Oracle ERP Cloud

Projected Oracle Cloud Implementation	Month 1	Month 2	Month 3	Month 4	Month 5	Month 6	Month 7	Month 8	Month 9	Month 10	Month 11	Month 12	Month 13
Mobilization	■												
Project Management													
Service Delivery Introduction													
Initiate and Confirm													
Protyping (3 Iterations)					Iteration 1 / 2 / 3								
Integration Testing								Cycle 1 / 2 / 3					
Parallel Payroll Testing									Cycle 1 / 2				
End to End Scenario (UAT) Testing													
Mock Conversion							Mock 1 / 2 / 3						
Change Enablement													
Training Material Development													
Training Execution (Train The Trainer)													
Training Execution (End User)													
Deploy and Go-Live (★)													★
Post Go-Live Support													

Figure 4.2 Sage Intacct

Projected Sage Intacct Implementation	Month 1	Month 2	Month 3	Month 4	Month 5	Month 6	Month 7	Month 8	Month 9	Month 10	Month 11	Month 12	Month 13
Initiate													
Analyze and Design													
Build and Validate													
Deploy/ Go- Live (★)													★
Operate/ Post Go-Live													

Figure 4.3 Workday Cloud

Projected Workday Implementation	Month 1	Month 2	Month 3	Month 4	Month 5	Month 6	Month 7	Month 8	Month 9	Month 10	Month 11	Month 12	Month 13
Mobilization	█												
Project Management	█	█	█	█	█	█	█	█	█	█	█	█	█
Plan	█	█											
Data Conversion & Migration	█	█	█	█	█	█	█	█	█				
Architect		█	█	█	█								
Configure & Prototype					█	█	█	█	█				
Test						█	█	█	█	█	█		
Deploy & Go Live (★)											█	★	
Support											█	█	

Figure 4.4 Oracle NetSuite

Projected Oracle Netsuite Implementation	Month 1	Month 2	Month 3	Month 4	Month 5	Month 6	Month 7	Month 8	Month 9	Month 10	Month 11	Month 12	Month 13
Project Planning	█	█	█	█	█	█	█	█	█	█	█	█	█
Execution and Work Sessions		█	█	█	█	█	█	█					
Testing and Training								█	█	█	█		
Go-Live (★)												█	★
Post Go-Live Support												█	█

Figure 4.5 SAP S/4HANA Cloud

Projected SAP S/4HANA Cloud Implementation	Month 1	Month 2	Month 3	Month 4	Month 5	Month 6	Month 7	Month 8	Month 9	Month 10	Month 11	Month 12	Month 13
Project Prep	█												
Enrterprise Design		█	█										
Process Data Design			█	█									
System Build					█	█	█	█	█				
SIT										█	█		
UAT										█	█		
End User Training											█	█	
Cutover and Go-Live (★)												█	★
Post Go-Live support												█	█

Figure 4.6 Infor CloudSuite Public Sector

Projected INFOR Cloud Suite Implementation	Month 1	Month 2	Month 3	Month 4	Month 5	Month 6	Month 7	Month 8	Month 9	Month 10	Month 11	Month 12	Month 13	Month 14	Month 15	Month 16	Month 17	Month 18	Month 19
Plan																			
Design																			
Build and Configure																			
Validate																			
SIT																			
UAT																			
Transition																			
User Training																			
Cutover / Go Live (⭐																			
Post Live Support																			

Figure 4.7 Tyler Munis ERP

Projected Tyler Munis ERP Implementation	Month 1	Month 2	Month 3	Month 4	Month 5	Month 6	Month 7	Month 8	Month 9	Month 10	Month 11	Month 12	Month 13
Initiate and Plan													
Assess and Define													
Build and Validate													
Final Testing and Training													
Production Cutover/ Go-Live ⭐)													
Phase/ Project Closure													

Figure 4.8 Microsoft Dynamics 365 ERP

Projected Microsoft Dynamics 365 ERP Implementation	Month 1	Month 2	Month 3	Month 4	Month 5	Month 6	Month 7	Month 8	Month 9	Month 10	Month 11	Month 12	Month 13
Mobilization													
Project Management													
Vision													
Validate													
Construct													
Deploy													
UTT, UAT													
Parallel Payroll													
Go Live (⭐													
Evolve (Support)													

It should be noted that the information contained in this High Level Implementation Road Maps section relies on available objective sources to provide illustrations of SI vendor implementation scheduled based on County requirements. The options available to the County will be determined by those vendors that respond to the RFP.

Section 5. Appendix A

The embedded PowerPoint contains the detailed market assessment with assessment of each option and SI. The County should consider the PowerPoint a critical component of our assessment.

Orange County
Market Analysis.pptx