

EXECUTIVE SUMMARY

Brief Results of this Audit **Evaluation Summary**

It is the opinion of the assessment team, that overall users are satisfied with the services and performance of the IT Department. There was an overwhelming view that the AJAX Department is diligent in their work and strives to support the users as best as possible.

The overall network and ERP system performance and the availability of a “more robust” data environment to support user reporting needs are the two greatest areas of concern of the users.

From the IT Department staff level standpoint, the IT department does not have robust project management disciplines to ensure that the IT services are being delivered in the most productive manner to serve AJAX’s business objectives.

It is the opinion of the assessment team, that most of the senior members of the IT Department have limited bandwidth. These individuals need to expand the rollout of non-technical projects which they perform to the junior staff.

AJAX has not established an IT Strategy which will allow them to foresee the technical decisions which need to be made over the next few years to support their business strategy. Establishing an IT Strategy will ensure that prudent IT investments are made in the future. However, unless the IT Department’s position within the organization is repositioned to have an active voice within the Executive meetings, the synergies between IT and the business will not be achieved.

Detailed Review

Assessment of the IT Strategy

AJAX has established a current IT Plan which is comprised of hardware and professional services expenditures for the current year. However, an IT Strategy has not been developed at AJAX. The IT Strategy is intended to provide an organization roadmap of how AJAX plans to utilize IT to support its business. The IT Strategy should include multi-year planning which ensures a close integration with the business strategy that supports AJAX's business goals. The IT Strategy should be formulated by a group of representatives from both the business and IT. It should be noted that the IT Strategy is dependent upon a formal business strategy.

The key components of the IT Strategy include:

- Summary of key projects, project objectives, staffing & budget requirements and their relationship to the overall business strategy
- An inventory of existing applications supported and the level of resources required to support them
- Architectural directions and methods for implementation of IT solutions
- Current IT departmental strengths and weaknesses
- Analysis IT usage by competition
- IT organization roles and responsibilities
- List of monthly, quarterly or mid-year milestones

Recommendations:

Establish a baseline IT Strategy which is updated each year to reflect the changes within the organizational structure and future milestones.

Assessment of the IT Organizational Structure and Management

The IT Department is comprised of an IT Manager and 17 IT professional. All 17 IT professions report directly to the IT Manager. There are three individuals working in Mexico in which two persons are ERP Business Analysts and the other person handles workstation support issues. The only direct reporting structure in which an individual's workflow is managed by another person is comprised of the ERP DBA reporting to the Senior ERP DBA and the Mexico ERP Business Analyst reporting to the Senior ERP Business Analyst.

There are two instances in which business have their own IT professionals, AJAX Manufacturing and Frit Sellers. In these cases, the IT persons are only allocated to IT part of the time but both functions report directly to the business. Having a distributed model for allocating IT professionals in which the IT Manager does not have oversight or management responsibilities does not allow for the proper and efficient deployment of available IT resources to the business.

The IT Department reports to the Human Resources Department who represents IT at the Executive meetings. Typically, in most businesses which are similar to AJAX, the IT Department report to the COO. In addition, by not having the IT Manager at the Executive meetings, the synergies between the business and IT will not occur.

Recommendations:

1. Consider a "dotted line" reporting structure all IT personnel to the IT Manager.
2. Consider having the IT Manager report to the COO.
3. Consider having the IT Manager participate in the Executive meetings.

Assessment of the IT Deployment of New Innovations

IT innovative freedom is permitted to certain senior members of the IT Department based on a defined need that in most cases is determined by the IT Department. The question which must be asked is whether vendor technology innovation is being pursued to enhance one's skill set or if it is the bi-product of a requested IT functionality which is deemed critical to the business. An analysis also needs to be performed to identify the IT person who was be assigned the task of deploying this new technology. In many cases, meaningful training is not available to provide the necessary background required to deploy the specified technology and therefore a "self-taught" learning curve is required to deploy new technology. Selecting the right individual within the IT Department requires an assessment of the IT acumen necessary to implement the stated new technology initiatives. In some cases, a decision may be made to utilize contract resources which have the subject matter expertise to deploy the stated new technology. As part of the deployment of any new technology a business requirement specification should be established to ensure that there is a direct business or cost-savings benefit to deploying the new technology. In order to understand the cost benefit, internal resource requirements to deploy the new technology needs to be understood to ensure that management agrees with the diversion of the IT resources from other critical projects.

Based on our assessments we have identified several new technology initiatives which were deployed in the last year. The SharePoint deployment as currently constituted provides the teamsite for the IT department which is used to communicate technology offering, file management, scheduling and budgeting. Additional user areas have been identified in which teamsites are also planned to be created. In addition, the AJAX Intranet will eventually be replaced by SharePoint. Except for the identification of business usage to support the central AJAX administration areas, an overall business requirement document was not established at the business level for SharePoint and therefore there was not a clear vision of its potential use which management could use as a basis to perform a cost benefit analysis. In addition, the internal person-hours required to deploy this technology was not established which would provide additional data needed to support a cost/benefit analysis which potentially may have led to a decision by management not to proceed with the rollout of this technology. Understanding the initial implementation costs along with recurring costs (i.e., actual costs plus internal resources) which are tied to business level cost allocation approach would provide the information needed by business of whether they would be willing to fund such an initiative.

An additional technology which is starting to be deployed at AJAX is the use of server virtualization which has the potential of providing extensive cost saving in regards to the need to purchase new servers. At the time of the assessment, two forms of virtualization were deployed at AJAX. The SharePoint environment deployed a free version of Microsoft's virtualization product (i.e., Hyper-V) which is currently not a leading industry product but was deployed solely because of cost consideration. Jeff of the network group is in the process of deploying VMware to be used for establishing test environments. Jeff has not received any formal training for deploying VMware which in the view of the assessment team is not the proper course of action. In addition, there are no plans to deploy virtualization within AJAX's production environments which in the opinion of the assessment team is missed opportunity for future cost savings.

Recommendations:

1. Conduct gap analysis for skill required for projects to ensure proper assignment of IT staff. If the skill is not present within the current IT Department, then specialized consultants should be hired to perform these projects.
2. Target training to the new technology being deployed.
3. Require all new technology deployments to be evaluated by a Technology Steering committee to ensure proper business requirements and cost/benefit analysis has been performed.

Assessment of IT Problem Reporting & Resolution

The IT Department uses Service Desk for the reporting, tracking and management of problems. Emails which are sent to the help desk email account automatically create a service ticket. All help desk phone calls from most business locations are handled by the Local help desk team comprised of two technicians and one ERP Business Analyst. Any issues that require additional level of expertise are forwarded to the IT Department Subject Matter Expert. Off hour support is provided by the Local help desk. All phone calls and emails to the help desk are routed to the two Help Desk personnel who coordinate among themselves in regards to the person who will provide off-hour support for each day. Overseas users, most of which who work from home are conditioned to have their issues addressed during normal Local hours. The Local help desk team reviews all off hours issues reported to determine whether they need to immediately address issues. Based on user interviews conducted during the assessment, there were comments regarding the difficulty of contacting the Help Desk to resolve weekend system outages.

The adaptation of the process for users to report issues through the help desk is an evolving process in which individual users still contact the IT person directly who they think will be able to resolve their issue. In many cases, the IT person responding to this issue will not open a ticket in Service Desk, especially if it resolved during the initial phone call. Due to the lack of an effective set of health monitoring tools at the server and application level, it is the overseas users that are the trigger for reporting issues. The lack of adequate Health Monitoring checks will be discussed in the System Performance Section.

Recommendations:

In order to address the issue of users bypassing the Help Desk, it is important that management announce the process through various forms of communications. In addition, the IT Manager needs to further enforce the requirement for IT personnel to open Service Desk tickets for all requests of their time. The number and type of off-hour support phone call should be monitored which may require changes to the hours of the Local help desk and potentially include a part-time help desk function in the European time zone as these businesses expand in the future.

IT Resource Management - Planning, Utilization and Prioritization

IT Services are divided into Run & Maintain and Projects. Run & Maintain is comprised of keeping the lights on and break & fix problems report by the users. New projects from an infrastructure standpoint in most cases involve self-initiated projects by the IT Department or based on the opening of new AJAX locations. Application software projects are mostly comprised of report requests. Release upgrades to ERP are considered Run & Maintain projects for the purposes of this discussion.

Recent changes have been adopted which allowing for the “free up” of time of more skilled IT staff members by allowing them to train less experienced IT staff to perform repetitive tasks and other key functions. This was apparent in the hiring of an ERP database person, training one of the help desk personnel to provide high level support for internally developed applications and the use of a part-time person to perform backup and server monitoring.

The budget process in regards to new hardware and system software technology is based on a decentralized model in which the Senior IT staff members identifies these technology requirements which is approved by the IT Manager. These technology purchases do not go through an IT Steering Committee and the current job requirements of the IT Manager does not require the technology expertise to scrutinize the merits of these requested budget items.

A self-managed approach is used to account for the management of individual IT member workflows. Understanding that any system outage and the deployment of technology required to support a new AJAX location will be the highest priority, all other Run & Main Tasks and project initiatives are left up to the individual IT person to determine its overall priority. Although there is communication between the IT staff and IT Manager to discuss the status of major initiatives, the daily management of an individual’s workflow in not managed at level to ensure they are properly prioritized and expected productivity levels are being achieved. Based on the assessment team’s interviews with various business users, many of users felt that critical system/IT needs of the organization were not being implemented at sufficient speed due to IT resource constraints. In the opinion of many of these same individuals, there was management unwillingness to spend money on outside resource augmentation in order to accelerate these critical projects. It is the view of the assessment team that these IT resource bottlenecks are attributed the decentralized approach to the management of IT priorities.

Consultants have been used in the base to provide subject matter expertise for new technology deployed at AJAX. Technology firms are also used to build out telecommunication networks and building wiring to support new AJAX locations. AJAX does not have a formal RFP process in which detailed specification are established by AJAX in which a consistent set of proposals are submitted by potential vendors. In addition, for small technology initiatives, AJAX has not mandated a fixed-price approach to pricing its engagements. With the slowdown in the economy the use of fixed-price contract for the rollout of technology solutions is more widely used. However, of fixed price contracts would require AJAX to better plan the desired required services at the inception of the project.

The management of consultants which have been assigned to technology initiatives requires a AJAX IT person to be accountable for the productivity of the person especially if a time & material billing approach is being used. Instances have been cited on past projects where consultants have expended considerable time on a project before it was identified and escalated to management that the consultant was not qualified to perform their assigned duties.

The allocation of IT costs to business is a contentious area for many business users due to the perceived inequities based on the allocation model being used. In addition, two three ERP Business Analysts allocate their time to the business areas which use their services. There is not a consistent process for allocating time established which provides the necessary visibility to the business areas being billed. In addition, due the use of the resource allocation model, some business areas are not initiating requests to the IT business analysts to re-engineer their business processes due to allocation model being used. In some cases, these business areas do not request IT business analyst services to re-engineer or further align their business processes to integrate better with IT system because of the perceived lack of understanding of their business processes.

Recommendations:

1. The management of staff to ensure the proper priorities are being set and desired productivity levels are being met would be improved by additional layers of management reporting within the IT Department.
2. Ensure that an individual IT Department staff member is assigned to each consultant or outsourced project who is held accountable for the overall performance of the contracted resource.
3. Perform a detailed analysis of the alternative approaches for allocation IT costs which includes allocation based on functional use of the system and not based on the number of users established on the system.
4. Perform an independent analysis to identify gaps in which business processes are not effectively aligned with application system functional capabilities and delegate business analyst resources based on business need versus the business ability to pay for these services.
5. Establish a framework to rollout a formal RFP process for future technology initiatives. For future IT projects, identify possible uses of a fixed cost model for contracting these services.

Assessment of the IT Project Management

As discussed in the IT Resource Management section, IT Services are divided into Run & Maintain and Projects. All projects should be managed through project management disciplines. The IT Department currently tracks its activities in the following groups:

- Infrastructure tasks
- Software solution tasks
- ERP Business Analysts pending projects
- Tracking of BI Reports

All of the groups track assigned person, due dates and percentage completed. The Tracking of BI Reports also specifies the number of hours required to perform the task. Large scale projects such as SharePoint phased rollouts do not have detailed project plans. There are mid-size projects which have multiple tasks with associated dependencies which warrant project plans to be established.

One key missing component of the project management disciplines is the establishment of internal resource requirements both with IT and the user areas needed to complete the project. Also, as part of software deployments, IT personnel and user areas have cited an overall deficiency in the testing being performed. In many cases, the IT Department and Business Analysts are sole groups which perform testing with no user involvement.

Recommendations:

1. Establish a structure to ensure that man-hour estimates at a project task level are being specified.
2. Establish a more formal process for tracking internal initiated IT problems.
3. Establish a more formal process for tracking IT personnel time.
4. Implement periodic reviews to ensure that projects remain on schedule and within budget.

Assessment of Data Management & Reporting

Due to the enormous demand on the BI team to develop custom reports for specific areas, the establishment of a structured and well documented base level of data and reports has not been established. This approach still allows for continued development by the BI Team but does not allow most user areas the ability to develop their own sets of reports. PowerPlay reports remains the primary vehicle for producing management reports, but there is limited functionality built into this reporting to allow for flexible reporting.

The ERP product is known to have deficient data repositories to allow for effective management reporting. To manage this known deficiency AJAX has developed data cubes (also referred to as tubs) which forms the basis for establishing commonly used data elements which are used to support management reporting. To ensure the accuracy of the data these data tubs are reconciled to the General Ledger.

As part of the interviews conducted during the Assessment, a prevailing theme was the lack of ERP and ReportNet training. Several users indicated that ERP training has been provided in parts, but not as a whole. As a result, there are many areas of their daily workflow in which they do not know how to make the best use of the system and how to extract the information they need.

The training materials and online help are viewed as inadequate which is resulting in a fair amount of user errors. The intended approach for ReportNet training was to train power users within each business area key functional group for the purposes of embedding expertise through all of the AJAX units. Due to technical nature of the ReportNet tool most areas have not developed the inhouse expertise necessary to develop their own reports. Therefore, the business area dependent on the BI team to develop reports, and delays are sometimes caused by resource bottlenecks.

Based on user interviews conducted as part of the IT Assessment, the following common conditions were identified as it relates to data repository and reporting capabilities:

- Various departments lack an understanding of the data structures and thus cannot build a road map to get the critical information for daily operations or key management decisions
- Historical data is difficult to identify and locate
- Cubes containing financial and purchasing data are often not updated timely, so outdated information appears on reports.
- ReportNet is too complicated for general users
- Post migration issues of a company where historical data was split into two locations with no automated process in place to merge the data.

- Data is not available to support “forward-looking views”. Currently, data and reports are not available to allow for supply and demand to be understood and to identify changes in forecasting.

The BI team identified the following issues with data management:

- Direct SQL code replaces the use of packages which is an easier method to complete their project. Additional time is needed to finish the documentation of packages to allow them to be effectively used in the future.
- Need to establish better joins
- Prioritization of reports based on last possible due date
- Historical information available, but are still developing pathways to quality present day information

Recommendations:

AJAX is currently at a critical stage in which they need to determine whether they will continue to develop their own data repositories using in-house developed automated routines or if they will establish a project to install a 3rd party product which will provide an integrated data warehouse to support its future reporting and data distribution needs. These potential data warehouse initiatives need to be closely managed to ensure that capital investments achieve the desired benefits within reasonable timeframes. It should be understood that the typical deployment of the initial phases of a data warehouse deployment will require a minimum of 18 months. It also should be noted that many 3rd party products represent they have a pre-built integration with ERP. However, a detailed analysis would need to be performed to determine how accurate these representations are since they may only be just a set of tools used to build data cubes which still require inhouse resources to interpret the ERP data schema.

Prior to initiating a new data warehouse initiative, AJAX should establish business requirements of its data requirements for data delivery and reporting which includes the timeframes in which these requirements are needed. These requirements should be measured against existing capabilities of the data tubs and packages established which are utilized by the reporting tools currently used at AJAX. Based on this gap analysis, additional analysis should be performed to determine the cost to enhance current data management processes as compared to cost of implementing a new data warehouse. Also as part of this analysis and as part of a deployment of an IT Strategy, management needs to reaffirm its commitment to ERP for the next 7 - 10 years prior to embarking on the capital investment of deploying a data warehouse.

Regardless if a new data warehouse is deployed at AJAX, projects need to be deployed to organize and document existing data and reporting components to transfer them to more useful set of assets to AJAX. It is understood that there is a project in place to replace the Demantra

system which hopefully address the forecasting issues along with projects to provide improved management of the working capital.

Data integrity issues have surfaced in the past in which manual workarounds have been established such as integrity issues relating to the “AS OF inventory file which requires a complete shutdown of the entry of the transaction for an extended period each month to allow for reports to be run which allow for the inventory to be reconciled against the GL. It is recommended that one of the Business Analysts being assigned to job to become the data integrity “Czar” in order to identify other data integrity issues and to serve as the project manager over the initiatives required to remediate these issues.

Assessment of System Performance

System performance for the purposes of this assessment is divided between network and ERP performance.

Based on the interviews with users areas conducted as part of the assessment there were five common themes relating to the network system performance problems:

- High frequency of system outages in Mexico, with root cause unknown
- Slow performance in downloading and transmitting large files
- Overall connectivity problems from remote locations with no root cause identified
- Outage problems tend to come in flurries
- Substandard communication tools relating to voice and video communication increase the difficulty of international communications

Based on the interviews with users areas conducted as part of the assessment there were two common themes relating to the ERP system performance problems:

- Sessions are frozen in which processes need to be unlocked by the Data Base team when this occurs
- ERP performance degradation experienced by Mexico during month-end when reporting routines run by the accounting area significantly increase

The root-cause relating to some of the ERP performance problems relating to contention of resources were caused by the ERP jobs managed by the Data Base team and data management routines which were run by the Business Intelligence Analysts. These issues were resolved November, 2010.

Recommendations:

1. Establish internal and external FTP servers which can be used by various business user areas to transmit large files.
2. As part of the assessment, meetings were conducted with the Network, Database and Storage groups to determine the location of the potential resource bottlenecks. Bandwidth in the network and at the network device level have been significantly increased with recent hardware purchases. Performance analyst using available tools were performed to supposedly eliminate the network and ERP database as the source of the performance issue. At the time of the assessment no analysis was perform of the SAN performance. Tools were loaded at the end of the assessment to start this analysis.
3. Implement server and system services health check monitoring software to proactively identify failures and symptoms which could potentially lead to a failure. Project was started in 2010 but was placed on hold.
4. Purchase additional database performance monitoring tools.
5. Investigate alternative phone and IP provider overseas to determine whether enhanced services, economical services exist.
6. Establish additional alternatives to Skype which are made available to all business units.

Assessment of Alternative Approaches for the Managing IT Services

Function	Recommended Future Support Model	Comments & Rational
Security Monitoring	OUTSOURCE	Although currently assigned resource has expertise, the individual's time can be freed up to perform other tasks
Security Vulnerability Assessments	OUTSOURCE	Although currently assigned resource has expertise, the individual's time can be freed up to perform other tasks
Backup Monitoring	REMAIN	Continue to use lower skilled resources to perform this task.
ERP Application Support – Run & Maintain	REMAIN but perform OUTSOURCE due diligence	Internal knowledge base critical to deliver cost effective and timely solutions. However, if ERP Application support along with Infrastructure is outsourced it may be cost beneficial to also outsource the Run & Maintain support.
ERP Application Support – Deployment of new Releases	REMAIN but assess merits of OUTSOURCE	A due diligence review should be performed to determine the cost benefits of outsourcing all of ERP application support and processing to a system integrator which specializes in ERP.
ERP Infrastructure	REMAIN but assess merits of OUTSOURCE	Would only recommend outsourcing infrastructure if ERP database and ERP Application support is also outsourced. Outsourcing ERP Infrastructure will also require analysis of the impacts to the Network Infrastructure since ERP network performance is an issue.
ERP Database Support – Current Environment	REMAIN	Internal knowledge base critical to deliver cost effective and timely solutions.
ERP Database Support – Future Environment	CONTRACT SME	The deployment of releases in future years will most likely require the database to be migrated from SQL Server to Oracle. No Oracle expertise currently resides within the IT Department.
Mexico Infrastructure Buildout	Compare CONTRACT SME costs versus using Internal resources	Using Contract SME is the current approach. A cost comparison should be performed to determine cost savings of using internal resources.
Help Desk	REMAIN + CONTRACT AUG	Add contract resource augmentation to support European and Asian time zones

Support Model Alternatives

REMAIN - Remain with currently assigned IT Personnel

REASSIGN - Assign to other internal IT Personnel

CONTRACT AUG - Assign on contract basis to outside personnel which is managed by AJAX
(augmentation of resources)

CONTRACR SME - Assign on contract basis to outside personnel which is managed by AJAX
(Subject Matter Expert)

OUTSOURCE - Outsource function to consulting firm/System Integrator