

Information Technology Drive to the Future

June 2018

IT Efforts to Keep Advancing the County

- 3-5 year forecast of Capital Projects tied to the Strategy
- Expand Service Level Agreements
- Personnel
 - Hot skills flexibility
 - Succession Planning
 - Flexibility with staffing
 - Reengineering talent
- More investment in Self Service apps and Mobile apps
- Cloud/Disaster Recovery
- Portal
- Robotic Process Automation

General Comments

- This is not a criticism of IT or any person or other department.
- I did not conduct an audit nor should this be construed as representing one.
- These recommendations represent advancements we could implement. I implemented these in my business to reduce costs, increase controls and capabilities.
- Recommendations are do not address financial systems since Munis (ERP) is being rolled out. It will change procedures, controls and provide more detailed and sometimes more timely information.

3 to 5 year Forecast of Capital Projects

- Tie capital projects to the departmental strategy showing how capital investments, personnel additions and other investments achieve the 3 to 5 year vision
- Commissioners will have a better view of each departments strategy to achieve the County vision.
- Commissioners will see how delaying or canceling a particular project impacts the achievement of the strategy, goals and objectives years in the future.
- Capital needs can be planned holistically instead of piecemeal.

3 to 5 year Forecast of Capital Projects

(continued)

- This will require:
 - The County strategy should be up-to-date
 - All departments create a 3 to 5 year goals and objectives to support the County strategy
 - Capital Plan must support the goals and objectives:
 - The capital plan by each department is laid out year by year showing how investments tie to future investments
 - Forecasted costs should be included
 - Department heads/Elected officials may need training
- Facility Condition Assessment software can help with building related capital expenditures, as well as maintenance and replacement timing, which feeds into the annual budget

Expand Service Level Agreements

- A Service Level Agreements or SLAs is a contract between a service provider (either IT or a vendor) and the end user that defines the level of service expected from the service provider. SLAs are output-based in that their purpose is specifically to define what the customer will receive.
 - SLAs should be easy to measure and report
 - SLAs define measurable contract terms to set expectations and penalties/rewards
 - Examples can include:
 - Uptime/Downtime
 - Quality of Service (“QoS”)
 - Time to Recover/Turnaround Time
 - Keeping software current
 - This effort requires Purchasing support for vendors

“What gets measured gets managed” Peter Drucker

Personnel

- **Hot Skills Flexibility**

- A talented person in IT can make a major difference in IT. For example, a top programmer has 5 to 10 times the productivity of an average programmer*.
- In my experience, expert and talented IT staff often will not work for a lower salary, especially when they have a Hot Skill
- Hot Skills are in high demand and can change from year to year—or even more often
- We may have to make an offer sooner at an appropriate salary to get talent in those areas
- Retention may require that we increase upper bands yearly to keep talent in hot skills

* <https://cacm.acm.org/blogs/blog-cacm/180512-is-there-a-10x-gap-between-best-and-average-programmers-and-how-did-it-get-there/fulltext>
http://www.construx.com/10x_Software_Development/Origins_of_10X_%E2%80%93_How_Valid_is_the_Underlying_Research/

The general finding that "There are order-of-magnitude differences among programmers" has been confirmed by many other studies of professional programmers (Curtis 1981, Mills 1983, DeMarco and Lister 1985, Curtis et al. 1986, Card 1987, Boehm and Papaccio 1988, Valett and McGarry 1989, Boehm et al 2000).



Personnel

- **Succession Planning**
 - Business continuity requires having personnel trained and ready to assume roles in case of the departure of key personnel.
 - We need to invest in hiring or identifying successors
 - We can create a tool and processes to identify successor qualifications
 - Tracking successors development should be an annual requirement
 - Ongoing training is a needed expense
 - Network engineer succession is needed
 - Merit rewards for earned critical certifications, e.g. CISCO Engineer or State of Texas Records Manager

Personnel

- Flexibility with staffing if IT is under budget
 - Recommend Court create a policy to allow staffing changes to positions during the budget year to meet changing and dynamic County requirements
 - Repurposing positions during the year may be needed because of the challenges of rapidly changing technology

Personnel

- Reengineering Talent

- Most of the new projects that require new processes are initiated or supported by IT. Examples of these kinds of projects include Truancy and Suicide Watch List
- Developing new technology to support less effective processes is 'paving the goat path' instead of developing a highway with new processes
- In any organization there are many processes that could be made more effective and/or more efficient by reengineering them, saving the tax payers money and raising the quality of our services
- A trained reengineer should give an ROI on their compensation many times over each year.

Mobile and Self Service Apps

- More and more citizens are using mobile devices to access services for themselves.
 - This will save taxpayers time and money and
 - Deliver greater satisfaction to many of our citizens, especially the Millennials
- Examples of possible services that could be put onto mobile devices for self service (COTS is preferred, but some may be developed in-house):
 - Birth, land, marriage, automobile and similar records
 - Tax payments
 - Reports on road construction and repairs
 - Emergency alerts

Cloud/Disaster Recovery

- Disaster Recovery (“DRA”) should have a backup outside the local region so the same event does not take down the backup site, too. Our DRA site today is Plano.
- Cloud offerings by major vendors like Amazon and Google are now used for DRA. (Google is not CIJS certified at this time.)
 - Pricing tends to be cheaper
 - The cost is primarily dependent on restoration timeframes and whether we use an alternate operational site.
 - The major vendors have economies of scale that are beyond what the County has
 - The DOD considers their security appropriate for classified purposes
 - We will need to do an RFI to determine the cost

Portal

- Portal brings all relevant information and applications to an employee's desktop:
 - Typically, information the County wants the employee to see like "County News"
 - Email is present on the portal front page as the 'killer app'.
 - Other apps the employee often uses, e.g. paycheck, financial info, etc.
 - The employee can customize their front page by adding apps to the portal
- A custom dashboard is a key component
 - It can show red/yellow/green lights for budget, staffing, safety, project delays, etc.
 - The user can customize the dashboard to show the information they want to see
- Virtualized desktops limit the need for PCs and reduces space requirements since employees can use any space for the day

Robotic Process Automation

- This is a new technology that allows paper processes to be automated more quickly and for less money than in the past—often in 6-12 weeks for less than \$100,000. (After an initial investment in hardware and software of about \$200,000.)
- Automating processes can eliminate problems caused by human error
- Automating processes can greatly speed up processes
- Payback on the investment usually occurs within one year and/or frees staff to work on higher value activities
- There are many companies providing this service today. We can train our staff to do this work after a couple of projects