CEO Europe White Paper



Wargaming for CIOs Introduction

The arrival of game changing technologies like mobile apps, social media, cloud computing and the like have brought forth a new paradigm in the decision making process. In these unique situations and rapidly emerging technological landscape, traditional strategy development tools yield limited results. Wargaming has been a popular tool in the military and off late gaining adoption into business environments.

Business Wargaming is an adaptation of the art of simulating moves and counter-moves in a commercial setting. Unlike military war games, or fantasy war games which go back hundreds of years to the days of Prussia and H.G. Wells, business war games are a relatively recent development, but they are growing rapidly. The time has come for CIO organizations to adopt this technique in order to stay ahead of their challenges.

Wargames can help enable foresight into future scenarios holistically and help build a proactive strategy and a better reactive strategy.

"One thing a person cannot do, no matter how rigorous his analysis or heroic his imagination, is to draw up a list of things that would never occur to him"

Thomas Schelling

The advent of new types of competitors, with new cost structures from the emerging markets has put pressure on the traditional cost structure of businesses making it challenging to compete in a global economy.

Written by

Renjit Lal And Nitin Kumar iCEO No.44080

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+33 (0)970 440 114

The ever-growing list of new regulations and compliance needs, with many more in the pipeline has complicated the use of technologies further by imposing controls.

In order to embrace the new business reality, CIOs need to look at a new strategy development process which will make decision making realistic at minimal risk. In this paper, we try to define the limitations of conventional IT strategies, a framework to pick the right situations to deploy a Wargame, types and levels of Wargame and finally the design and execution of Wargames. Last but not the least; we touch upon some best practices and pitfalls with respect to Wargaming.



CIO challenges with conventional IT strategy

Businesses are increasingly dependent on technology to help them manage and integrate the components of the business model be it managing the supply chain, automating core activities, increasing longevity or revitalizing core assets, managing customer relationships, reaching new customers and even enhancing customer experience. This phenomenon demands that the CIO be a very savvy business executive who not only protects but also creates value for the organization.

The mere fact that the business has to live with so many uncertainties puts pressure on the CIO organization to build and develop a strategy that is agile, flexible and can change with the business direction thereby demanding a new approach to developing a strategy.

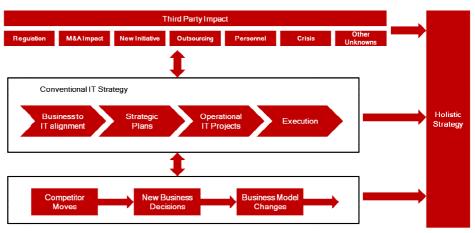


Figure 1 A Holistic Strategy

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The challenge with conventional IT strategy is that it is linear in nature and follows simple steps that are based on historical data, experience and a set of assumptions that are then projected into the future to draw up a futuristic strategy. This approach accounts for only known business scenarios that are then supported by an IT strategy that operates catering to known scenarios. Given the changes, the rate and direction of those changes in the environment, businesses (and IT) have to adapt and be prepared for the uncertainties and the implications of those uncertainties on the organization.

The new way of building a strategy has to extend conventional IT strategy in such a way that it is prepared to counter any moves by competitors, any changes in the regulatory environment, any surprises that show up in terms of new ground breaking technologies or products.



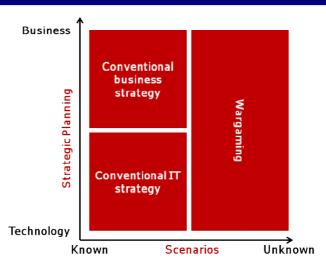


Figure 2 Extending Conventional Strategy

Figure 1 depicts, where Wargaming can extend a conventional strategy to cover unknown scenarios and be prepared for counter moves as responses to external changes.

Every IT decision has some impact on the business, internally and externally. For example implementing a new customer portal could enable reaching a lot more customers, but it might not integrate well with some of the backend systems which delays product availability being reflected on the customer portal. The options in consideration could be to build a custom portal in house, but this will cause a 6 month delay in reaching customers and also raise costs. In the meantime competitors are also evaluating the same moves but want to reach more customers through smart phone apps. What would you as a CIO do to address these? A smart phone app development takes four months as opposed to six months and can integrate well with the existing back end. Should you take the app route? Buy the portal? Build the portal? How will the competitors respond? These sorts of scenarios with a few decisions and multiple outcomes and a certain level of uncertainty tend to expose the limitations of conventional IT strategy that does not factor in moves and counter moves.

Wargaming creates a perfect window of opportunity for the CIO organization to look past some of these limitations, align with the business and prepare well to address these uncertainties. This is not limited to the example we cited here, but to several scenarios and combinations of scenarios that are discussed in the next section.

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Wargame scenarios for CIOs

Wargaming could be used as a strategy tool by CIOs in multiple scenarios. This will enable foresight into a number of external and internal factors on how the industry, market and/or internal organizational units would act/react to the strategy. Depending on the maturity of the IT organization whether it is initiating a formal strategy for the first time, conducting a periodic strategy exercise or evaluating strategy based on a specific situation, appropriate type of Wargame could be chosen and conducted at different levels as described in



the subsequent section.

Following are some of the sample IT scenarios in which Wargaming could be efficiently used to enable foresight within the CIO organization. These could be individual scenarios or a combination of situations that arise in any organization which have significant business impact.

Build versus buy decisions

Organizations could be venturing into new "Line of Business" or enhance the existing business with new functions and features whereby IT organization need to support with new capabilities. These could be situations like building a new distribution channel or enabling the intranet portal to be external facing etc., and "build versus buy" decision needs to be evaluated based on factors like time to market, competitor capabilities and industry maturity of products available. Involving representatives from business, operations and IT organizations to simulate scenarios will help uncover lot of unknowns and make decisions which are competitive for the market and right for the organization.

New initiatives

When organizations undertake initiatives like new ERP implementations or enabling mobile technologies there are a few uncertainties that surface within IT organizations. Conducting a Wargame will help uncover issues related to process, people, technical architecture etc., because of the change it introduces to various interfacing business and operations teams. This might even warrant core business processes to be re-engineered, Based on inputs from various stake-holders, IT organizations will be able to build a strategy that accommodates various market and organizational scenarios.

New regulations

Government regulation dictates changes the way business is conducted and in turn warrants modifications to IT systems. Be it regulatory mandates like Sarbanes Oxley or Safe Harbor from early part of the century or healthcare reform of recent times, they require response from IT organizations towards business challenges. IT organizations need to understand impact to their systems and factor these as part of their high level strategy. Bringing the impacted business executives to a Wargame exercise will help to analyze the situation in a much more comprehensive manner and identify options for required response.

M&A impact

Mergers & Acquisitions or resulting Divestitures introduce uncertainties within IT organizations. In most practical situations, IT organizations will be reacting to financial objectives that drive the changes within and outside the CIO's realm. The resulting integration will involve decisions on aligning processes,

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sunset systems, aligning leadership and consolidating teams. This could also include outsourcing scenarios which will bring additional layers of change to organizations. Conducting a Wargame would help uncover concerns and uncertainties from various business units, operations organizations and internal IT organizations. The resulting IT strategy will be able to support efficient business processes and ensure minimal interruption to business as many of the external and internal behaviors could be considered. Wargames take into account market responses, analyst responses and personalities of people which are usually not considered.

Supply or demand changes

Organizations across the industries are reconsidering their IT strategy to enable a more cost optimized environment for their demand by resorting to a cloud based model. In an ideal situation organizations expect to move to a pay-as-you-go model whereby they have the ability to scale up or down the IT resources based on business demand rather than traditional upfront investment. However, this raises lot of concerns in terms of security, privacy, accountability, and reliability which could also lead to business model changes. Engaging various stake-holders in a Wargame exercise could surface the external & internal challenges and make required decisions evaluating risks of implementations. Opportunity risks of not enabling such a supply model also could be evaluated just in case competitors resort to it and gains advantage.

Crisis Management

Business Continuity Planning is a critical component to IT strategy as more and more of the business processes are being enabled by IT applications. IT organizations should be prepared to handle the crisis situations that could challenge the status quo be it a natural disaster, a virus outbreak that paralyses the internal IT operation or a product re-call due to a business situation. In many situations, IT organizations work in isolation to put together a reactive recovery strategy which might not accurately depict the critical business areas to be addressed in a crisis situation. Engaging various business and operations stake-holders in a Wargame will help simulate the challenge and lead to better preparedness.

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Business model changes

As part of the growth strategy, organizations plan to venture into new business models or alter their existing models. This could be situations like building new retail channel for distribution, enabling online channel for sales, enabling an exchange platform to conduct business between entities etc. warrants enormous changes within the IT organization. A simulation based exercise involving impacted parties within the organization by IT would help identify right strategy to address the requirements based on market conditions and competitor moves.



The "how much" decisions

Several situations arise when IT executives ponder as to how much time, energy, resources, efforts and money is necessary in order to find solutions to business demands. Special situations or projects that have never been undertaken before have no precedence or experience to go by. Too little of anything can cause business risk while too much of anything can add complexity and create wastage. In order to get an estimate around the same, it is common for IT organizations to conduct small scale war games to arrive at the right range and figure out "how much".

Making Wargaming Work

Ideal situation for Wargames

A Wargame is most appropriate when the level of uncertainty is moderate. If uncertainty is too great for example like the impact of nanotechnology on the design of next generation servers and IT architecture of the future, it makes things very difficult for planners and strategists to plot outcomes.

Wargames are best used in conditions when two or three results seem viable along each strategic option, in these scenarios analysis tends to be very complicated and yield limited results. Therefore Wargames bring forth all the range of options that are available to executives for strategic decision making.

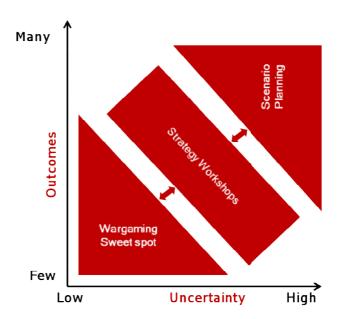


Figure 3 Situations Suitable for Wargaming

Refer to figure 2 above, when the uncertainty is low to moderate and the outcomes are few, it is the right zone to bring in a Wargame. The narrower the options and uncertainty, the more successful the Wargame would be since we know what the game is and then have to play to win it.

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On the other hand if the degree of uncertainty is too high and the options are several or even infinite then we have to first engage in scenario planning to define the game in the first place, these situations are not suited to deploy Wargames to win.

The area in between the two spectrums of uncertainty would entail strategy workshops to plot the trajectory of moves and to narrow the options from several to a finite few choices. You now know what the game is, but still have to define where to play it. This would still be out of reach from the Wargaming sweet spot.

Once we have made the decision to deploy Wargaming, the next decision is what sort of a Wargame should one play?

Wargame Types

Grand Strategy (GS)

This sort of a Wargame considers the entire resources of the CIO organization and focuses on a long term (3-5 year roadmap) along all possible dimensions, the focus is not on any one particular issue but a broader range of business implications based on technology decisions. Individual issues may not be represented in isolation.

This simulation considers macroeconomic factors like political, economic, and technological impact. This might involve several roles and teams like regulators, R&D teams, businesses, multiple competitors, strategic partners, vendors and other parties as deem fit. Focus is on economic logic of the industry, the dynamics within the industry, any possible technology breakthroughs and cost management through operational excellence. The overall IT strategy of an organization would be an example of a grand strategy.

Landscape (L)

Landscape Wargames are designed to consider changes in the operating landscape like industry consolidations, business model changes, M&A activity or a new regulatory change. These sorts of games also help CIO teams prepare for various outcomes and also cope with best ways to launch and integrate new and improved products, replacement and retirement of end of life products and decisions around "how much" effort. All of these geared towards adapting to the new business landscape.

Test (T)

Test Wargames are designed to test an already developed strategy against surprises and uncertainties stemming from likely responses of competitors, business changes and unplanned moves from customers, alliance partners, government, regulators and vendors bringing in breakthrough products and

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technologies. These are usually the most popular types of Wargames because the timeline of decisions in most companies is more suitable to building a strategy at a product, business unit or regional level and then testing it upfront. Testing the implications of a new change within IT that impacts the business would be a good example of this.

Wargame Levels

While working with CIO organizations, this exercise can be conducted at several levels, based on our experience we classify it into four levels Level I, II, III and IV. In addition to picking the right situation, it is also important to determine the right level for the game.

Level I

This is the simplest, most basic level of Wargame and usually involves tackling one particular scenario, based on a specific situation. Usually undertaken when there is a significant level of change being introduced and multiple scenarios are possible. More than likely this is likely to fall into one of the aforementioned scenarios from the previous section. A typical example of a Level I Wargame would be a new process or change to an existing process that would have multiple potential outcomes affecting more than one group of stakeholders.

Level II

A Wargame at this level is often designed to serve as a "consciousness raiser" by helping participants to understand key issues and concerns related to their own organization and capabilities. The Wargame is customized to reflect an organization's specific architecture, technology landscape, business model alignment and competitors and typically involves multiple sessions across a couple of days. An example of a Level II Wargame would be, selecting between ERP packages of two vendors which has widespread technological impact on internal as well as external stakeholder groups.

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Level III

A Level III Wargame is more intensive and aimed at helping develop and/or evaluate strategies to deal with a multitude of issues occurring in tandem. For example an outsourcing decision could arise triggered by an M&A impact aimed at realizing cost savings, hence this game would have to factor in M&A impact, outsourcing impact, vendor evaluation, staff reallocation etc. It involves the preparation of a significant amount of background material and extensive customization to reflect as much as possible the real personnel, skills, products, competitors, vendors and the "uncontrollable". Level III Wargames could easily last for a few weeks encompassing of multiple moves.

Level IV



This is the most intensive level of IT Wargaming and often involves two or more separate sessions, each two to four days in duration. This Wargame is usually designed to help conduct a very detailed evaluation of the overall IT strategies and supporting operational level plans before a company makes a final commitment to implement them. This is commonly used in information intensive industries like financial services and technology based industries like media and entertainment where production is becoming synonymous to technology. IT enabled business models, of organizations which use platform based business models need to run this periodically to stay ahead of the game.

Wargame Characterization

Based on the level and type of the Wargames, we can come up with a framework as below to help CIOs pick the right type and level of Wargaming. Various scenarios can be mapped onto this framework to determine the level of effort and depth required. A sample illustration is depicted in the figure below.

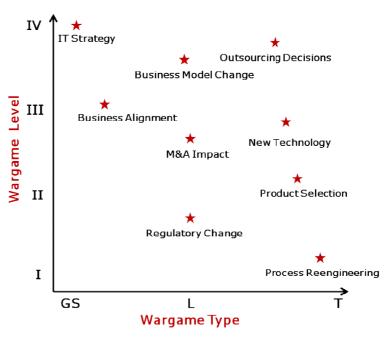


Figure 4 - CIO's Wargame Characterization Framework

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Remember that every situation may not accurately fit into these slots, but so long as it is approximately in the right zone, custom designs can create successful outcomes. These are also a function of the industry, organization size, industry dynamics and the current state of the business; hence we recommend that the above framework be used only as a guideline.



Additional factors for CIO Wargame design

For a CIO, to determine if a Wargame is the right way to go, a few things need to be taken into perspective. Every situation is unique and comes with its own set of challenges, however some factors to consider would be:

- Wargaming should be used in scenarios with low to moderate level of uncertainty
- Outcomes should be limited to a range of options rather than infinite
- There need to limited number of stakeholders bearing quantifiable impact through each other's actions
- Third parties such as outsourced vendors and other strategic partners need to be considered
- Should not be undertaken during times of high change and flux, for example during a merger or reorganization
- The core business representatives must be involved during the game
- Strategy and operational aspects of the CIO role must be separated during the exercise
- Assess competitive blind spots within the organization such as capabilities of CIO organization, business alignment gaps and culture related barriers and accelerators

Design & execution of a CIO Wargame

The design and execution of a CIO Wargame would depend on the complexity of issues to be addressed, level at which it is conducted and the number of stakeholders involved. The figure below depicts a generic framework, which is self-explanatory, that could be used to conduct a Wargame which segregates the exercise into 4 phases.

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Post-Wargame Plan & Design Preparation Execution Analysis

- Issue definition Gather details on
- business architecture Understand existing IT strategy
- Conduct industry
 analysis focusing on customer insights. competitor data regulatory mandates,
- · Identify internal stake-holders to represent market and internal BUs
- Form teams to prepare for Wargame design

- Ensure executive alignment
- Profile personalities participating in game
 Circulate material on
- Wargame and educate participants · Hand over data collected to
- participant teams Define high-level moves in separate discussions with participants
 • Prepare or modify
- decision frameworks to use during Wargame
- 1 to 5 in-person Sessions of 2 Rounds each depending
- on level of Wargame Round 1 – discuss issues to be addressed and moves
 - from each participant to surface potential challenges · Check for external and internal systemic imbalances
 - · Round 2 seek strategic suggestions to address
 - Issues based on Round 1. Focus on inconsistencies and blind-spots which IT
 - strategy need to address Conduct de-brief on session Repeat Round 1 & 2 for multiple sessions

- · Consolidate inputs from various sessions
- · Conduct what-if suggestions
- Prioritize suggestions to be addressed
- Discuss next steps and roadmap to implement suggestions

Figure 5 Wargame Execution Framework



CIO Wargames typically have four teams, the home team, the control team, the business team and third parties. Depending on the nature and situation multiple numbers of these teams can also be introduced. An important aspect of successfully conducting a Wargame is to identify a 'Control team' which plays a key role in designing the Wargame by selecting right type and level. This team could be from within the organization or consultants who have experience conducting Wargames and could be viewed as neutral coordinators. This team could comprise of one or more individuals based on complexity and level at which the Wargame is conducted. They focus on keeping the game on track, introducing uncertainties, changing the game dynamics and representing any entities that have not got adequate representation like the senior executives or customers or government officials.

The Home team consists of representations from teams which include sun functions of IT, IT operations units; IT outsourced entities or technology vendors and other supporting teams like security and compliance etc.

The Business Teams comprise of business units, operating units, business analysts and could include customer and competitor roles where applicable.

The Third parties team includes regulators, policy makers, suppliers and other stakeholders. If the game is geared to a specific situation then this team could be split into multiple teams with adequate representation.

The 'Control team' coordinate with the teams separately to plan various moves and counter-moves keeping teams and discussions in isolation to avoid decisions being influenced prior to actual Wargame. The execution is an iterative process and could be planned across 1 to 5 Sessions based on complexity and levels. It is important that de-brief is conducted and factored into the game for subsequent sessions (if applicable) so that outcomes accurately represents the incremental learning from the rounds and sessions. Each round comprises of at least one strategic move , normally Wargames are designed for at least 3 strategic moves across any given timeframe.

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Key benefits

Picking the right scenario and designing the Wargame with the right people, right level and ingredients has several general advantages like involvement of top management as well as next line of managers in the exercise who "live" the strategy and the consequences of the decisions.

Wargaming also makes learning from mistakes easier, it tests reactions to different situations and can bring forth the capabilities and strengths of the organization that are usually hidden behind assumptions. One other advantage is that radical moves are possible, that can challenge the very economic or the current operating logic of core business.

Closer alignment to the business model and simulating competitor moves could bring out innovative approaches using technology with assets that were previously under tapped or underutilized. Similarly underperforming assets can be quickly identified and a course correction can be undertaken.

Given below are some very specific benefits of CIO Wargaming



New technology implementation	Analysis of stakeholder landscape	Acquisition integration	Outsourcing
Identify value drivers	Understand cultural and technical barriers	Live the acquisition process, understand challenges and opportunities	Dry run for the actual bidding process
Assess risks in dynamic environment	Gather business requirements, understand enablers and obstacles	Identify synergy areas and prioritize quick wins	Ascertain true cost savings, value addition and understand risks
Capture interaction with business, market, users and third parties	Optimize operational parameters like timing, costs, resource allocation	Take into account "personalities" of other players	Understand incumbent bidders, negotiation tactics and their reactions

Concluding thoughts

Although Wargaming has been around for many years, it has gained relatively recent acceptance in the business arena and is highly under leveraged within CIO organizations. Given the increasing dependence of businesses on IT, the growing importance of information in decision making and the evolution of CIO from a technology heavy operational executive into a strategic business partner, life is about to change a lot.

IT strategy cannot be built in a vacuum and cannot be linear as yesteryears, it needs to align with the business strategy and give then uncontrollable and uncertainty in business strategies, this is bound to percolate into CIO organizations at a much deeper level than before. CIO decisions have a very high degree of impact on the businesses be it picking the right ERP system , going into the cloud, a major outsourcing decision or building a new business platform.

All these decisions have several different outcomes and impacts, thereby Wargaming becomes a very useful tool for CIOs to add to their arsenal in the years to come.

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Best practices and pitfalls

We recognize that every situation is unique and there is no 'one size fits all' approach when it comes to Wargame design; however there are certain practices which when followed will make sure that the effort is worthwhile and effective.

Wargame generally end up with suboptimal results due to a variety of reasons, we have tried to identify some common pitfalls and best practices here:

- Business leaders need to identify and pick the right situations to use Wargames
- The right level and type of Wargame has to be identified and corresponding number of moves be designed
- Involve the right roles and add invite the right people from the organization to play those roles
- Automated software cannot replace human intelligence, decision making and intuition, avoid this.
- Over engineering problems do not help the cause, they need to kept close to reality as far as possible
- Keep the games and moves simple, complicated games will sap energies in other directions
- All roles and players need to have meaningful dynamics between them in order to generate the right counter moves
- Do not run the Wargame very close to the D-day, it might just not yield the desired results and in fact also be counterproductive
- Empowerment to ask questions and challenge assumptions is absolutely necessary, if organizations management and culture do not support this then stay away from Wargames
- Do not try to anticipate all possible moves from opponents, focus should be on the "most likely" moves
- For optimal results :
 - Total participants between 15 and 50 (larger if you need to garner political support)
 - Keep number of teams to 6 of less to keep it productive
 - For multiple competitors, use strategic clustering. (All competitors do not pose equal threats)

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About the authors



Nitin Kumar, CMC, CGEIT, CM&AA, CITM

Nitin Kumar is a global executive and management consultant with deep operational experience, has leadership experience in startups, turnarounds and driving exponential growth.

Held several executive roles such as Consulting Partner, BU Head, Turnaround CEO, M&A Integration Leader and Start-up CEO focused on strategy, sales, delivery, growth and operational excellence.

He has spent several years advising CIOs and CEOs on strategic issues and has enabled decision making through creative approaches to drive and manage growth.

He is a certified management consultant, certified in the governance of enterprise IT, a certified M&A Advisor and a certified international turnaround manager.



Renjit Lal, PMP, PAHM

Renjit Lal is a management consultant with more than 18 years of experience in CIO services. During his career he has touched many aspects of IT ranging from strategy, operations, outsourcing, M&A integration and complex transformation.

He has held leadership positions in various global IT organizations with operational as well as consultative responsibilities.

He has worked with various Fortune 500 customers in US, Europe & Asia Pac and advised

them on strategic decision making capabilities with respect to M&A, Regulatory changes and Outsourcing.

He is a Project Management Professional as well as a Certified Professional, Academy of Healthcare Management.

A CASE STUDY

A consumer goods manufacturer announced acquisition part of their strategy to enhance distribution capabilities. The Acquirer and the Target both have ERP systems on different platforms. Evaluating the decision to migrate from one system to other or have both systems coexist and complement each other was a major decision with both business and cost consequences.

OBJECTIVE

- Asses impact of process reengineering to enable online distribution and mobile devices support via apps
- Assess ability to integrate technically with internal systems as well as external third parties
- Assess the impact on existing infrastructure and future scalability
- Assess capability required to address security and privacy related mandates

GAME DESIGN

- Consisted of representatives from two business units
- A team from CIO organization to evaluate technical impacts
- A control team to manage the Wargame, its strategic junctures and control points
- Third party team members representing customers, competitors and suppliers

SURPRISES

- The control team brought in perspectives from the customers who did not accept the changes very willingly
- They also played a very cost conscious and demanding management team who were not willing to delay decisions
- There were several personality issues that posed challenged to changes and decision making

KEY LESSONS

 Preparedness can always be improved with more amphasis

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