

# Mustering FORCSS to Make IT Business Decisions

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By Todd Traver and Kevin Heslin

Continuous change driven by increasingly frequent disruptive innovations and rapidly changing technologies often forces IT planners to make decisions based on incomplete or conflicting information, which frequently confounds and paralyzes the decision-making process. Uptime Institute's FORCSS methodology helps organizations cope with chaos by enabling planning teams, stakeholders, and end users to evaluate available IT alternatives based on mutual discussion and understanding of organizational priorities.

Rapidly changing cloud technologies, increasing global business competition, demanding customer expectations, and a potentially bewildering array of architectures makes IT planning far more complex than in the past when most user applications typically resided in a single type of data center. Today, user requirements are pushing applications and data into multiple data center environments and hybrid configurations, based on requirements and expectations for agility, latency, resiliency, cost, and availability. Determining where to locate applications as the "best execution venue" in a hybrid environment has become a daunting endeavor due to the many competing factors involved.

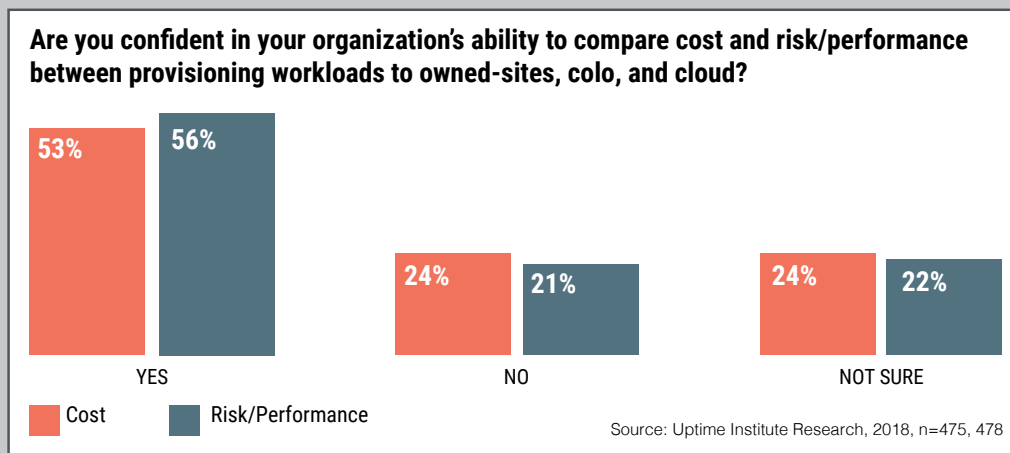
In one recent example, a national retailer employed FORCSS to help it finalize a software-as-a-service (SaaS) application in order to retain and grow business in the challenging U.S. market, while preserving its ability to compete globally at a later date, if developments warranted such a large expansion.

The retailer's highly competent and experienced IT team invested significant effort to understand the technical problems and benefits in different venues, but the high stakes of the decision along with a lack of internal interdisciplinary communication caused some indecision and doubt, which prevented it from moving forward. By evaluating the technical alternatives, FORCSS analysis enabled the retailer to transition from its traditional enterprise-owned data center environment to a SaaS cloud deployment that better met the company's stated objectives.

# Mustering FORCSS to Make IT Business Decisions

## FORCSS History

Uptime Institute developed the FORCSS (Financial, Opportunity, Risk, Compliance, Sustainability, Service Quality) methodology in 2012 to provide the industry a structured, repeatable, and re-useable process to facilitate technology and application-placement decision making. This development was in response to Uptime Institute Data Center Survey results that showed 54% of respondents had no confidence in their ability to compare outsourcing alternatives. The situation had improved by 2018, based on our data, but only somewhat, as just a small majority of respondents expressed confidence in their organization's ability to compare cost and risk/performance between provisioning workloads to owned, colocation, and cloud facilities.



When we introduced FORCSS in 2013 we noted, “A coherent IT deployment strategy is often difficult because the staff responsible for IT assets and IT services across multiple geographies and multiple operating units are themselves spread over multiple geographies and multiple operating units (<https://journal.uptimeinstitute.com/introducing-uptime-institutes-forcss-system/>).”

The development of FORCSS spanned three charrettes with executive leadership from all corners of the industry over an eight-month period. At these charrettes, numerous industry challenges and alternatives were discussed, to develop a common methodology that could be used to consistently and rapidly make business decisions. This exhaustive effort led to the current FORCSS decision-making methodology that is comprised of six top-level business imperatives, which are rated based on an 18-point process, and represented visually to compare alternatives.

FORCSS was designed as a flexible methodology, useful for making many types of IT-related decisions, from prioritizing site selection alternatives, to evaluating best application venues, and for making multi-faceted hybrid IT strategy decisions, to name a few.

Since then, numerous companies have deployed FORCSS to finalize IT decisions, with some extending the FORCSS methodology beyond those envisioned in the charrettes. The IT landscape has become more complex since FORCSS was developed, making the need for this type of decision making ever more apparent and in-demand.



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## Overview of FORCSS Methodology:

FORCSS comes into play when an organization realizes that it needs help completing an IT decision-making process. In many cases, an organization thinks it has identified a preferred approach, but personnel changes, fear of risk, changing business requirements, organizational and professional rivalries, or even lack of clear-cut lines of authority cast doubt on the overall wisdom and validity of the decision.

Uptime Institute makes the FORCSS methodology available publicly for organizations that might choose to conduct the analysis without outside help; however, most companies conclude that involving the Uptime Institute as a third-party facilitator is the best way to implement FORCSS. FORCSS works best when an organization recognizes that one or more management failures is impeding the IT decision making process, and Uptime Institute has the experience, expertise, and perspective to help stakeholders and internal experts come together in a consensus-building process.

The FORCSS process brings all parties to the IT decision-making process, causes them to share their data and perspectives, and asks them jointly to prioritize how they contribute to the business objectives. In doing so, compromises are forged and consensus achieved, clearing the way for an organization to go forward.

To initiate a FORCSS analysis, Uptime Institute convenes a team of subject-matter experts and stakeholders from an organization to conduct a charrette, which is an intensive facilitated planning session discussion of requirements and priorities, where immediate feedback is received, and all parties are actively involved in the discussion of possible outcomes and alternatives developed by the client (see the chart for a complete list). Uptime Institute acts as the facilitator to help eliminate biases and to cut through noise such as internal politics or careerism. Uptime Institute does not help create possible IT approaches, rather we help organizations validate the significant research they have already done and to use it determine the best outcome.

FORCSS charrettes are fast-moving, one-day sessions that elicit much relevant discussion and active participation from key stakeholders. Two Uptime Institute consultants team together to ensure the discussion is on track and to capture the details of the process. FORCSS is designed to help guide organizations to the most appropriate decision, which is possible because organizations have usually done tremendous amounts of research into cost and performance before convening a charrette. As a result, the facilitators focus on using the information at hand to make decisions, not evaluating each data point. The process can tolerate approximations and even errors that would have to be addressed in the design or construction processes.



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<b>FINANCIAL</b>	<b>F</b>	Value of Application TCO Cash Commitment
<b>OPPORTUNITY</b>	<b>O</b>	Time to Deployment Capacity Lock-in
<b>RISK</b>	<b>R</b>	Cost per Outage vs Availability Security Assessment Public Perception Risks
<b>COMPLIANCE</b>	<b>C</b>	Government Requirements Internal Policies Industry Standard Compliance Certifications
<b>SUSTAINABILITY</b>	<b>S</b>	Carbon and Water Impact Green Third-party Certifications PUE Reporting
<b>SERVICE QUALITY</b>	<b>S</b>	Application Availability Performance (Latency) End User Satisfaction

FORCSS analysis provides organizations with the ability to quickly develop decisions by defining and distilling business requirements into a concise structure, that can be quickly and easily understood and discussed by all participants and organizational levels within the organization.

The FORCSS charrette includes the roles/job titles listed on the next page across two major areas: subject matter leads and key stakeholders or influencers. Identifying specific individuals can sometimes be difficult because of organizational structures and different ways of dividing authority. The need for specific subject matter leads can change according to the use case.

## Mustering FORCSS to Make IT Business Decisions

### **Subject Matter Leads (organization technical experts expected to design, maintain, and operate the system)**

- IT services manager
- Facilities manager
- Finance manager
- Customer services manager
- Legal
- Applications architect

### **Stakeholders (including those affected by outcomes, such as application owner and business line owners, where appropriate)**

- Procurement/sourcing
- Insurance
- Risk/compliance (business line)

Once convened, the FORCSS charrette requires participants to rank the strengths and weaknesses of possible approaches against the organization's business objectives. The Uptime Institute facilitator actively encourages subject matter leads to share data, ideas, and concerns. During the charrette, the group works through each of the six top-level areas and 18 indicators, achieving consensus on the importance of each one relative to the others. These results are used to create a visual FORCSS index.

1. The FORCSS index indicators are placed in relative positions of high, medium, or low impact, to reflect the advantages or the exposures within any given factor.
2. Some inputs may be weighted more heavily than others (positively or negatively) based on customer input.
3. Any additional special considerations are defined as Key Determinants and are specifically identified in the FORCSS Index output.



# Mustering FORCSS to Make IT Business Decisions

## CASE STUDY

### **FORCSS Case Study: Software as a Service Deployment Considered Critical to Retailer's Growth Opportunities**

A major retailer determined that it needed to upgrade its web-based customer service to remain competitive with larger international rivals. The retailer had traditionally owned its own data centers and IT hardware, did not utilize colocation, and deployed an on-premises analytics platform for sales and ordering analysis to drive its search engine. The company considered the analytics platform to be critical to its immediate efforts and crucial for possible implementation of a global launch.

At the time of the FORCSS charrette, 70% of the retailer's total applications workload ran on premises (in its own data center), with low-priority applications running in the public cloud. The on-premises workload was distributed across two U.S.-based data centers, with one DR (disaster recovery) backup site and three branch office data centers. Executive leadership recognized that IT-based capacity and performance issues were affecting the customer experience, especially in locations far from its primary data centers.

The retailer clarified its business objectives to identify weaknesses in the existing configuration. These business requirements were used to develop three possible solutions. One of the three emerged as the preferred strategy.

At the FORCSS charrette, the retailer detailed its business objectives and the KPI (key performance indicator) that led it to identify the problem of inconsistent coverage across the U.S. Leadership believed the system "was spotty, but not a total mess." In addition, associated inefficiencies were costing money.

In addition, it turned out that the preferred strategy had been developed by only a handful of individuals, with some subject matter leads and stakeholders feeling isolated from the decision-making process. Thus, there were challenges to get buy-in for the preferred solution.

### **Proposed Strategy**

The retailer's preferred strategy was to deploy 75% of its total workload in the public cloud, retaining 25% on premises and shifting 100% of its analytics implementation into software-as-a-service (SaaS) within 18 months. This was an aggressive technical strategy and short timeline, given the current IT environment and the large number of possible alternatives. However, the client had also identified two other possible solutions, which limited the number of alternatives to three, greatly expediting the process.



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## CASE STUDY

### FORCSS Analysis

Uptime Institute facilitated a group review of the three solutions using FORCSS methodology. Each was evaluated against four mission-critical business objectives articulated by the charrette:

- Deliver superior web-based customer search content and response times.
- Achieve uniform and reduced latency. Data provided by services managers highlighted a large difference in incomplete client transactions between metropolitan and rural customers.
- Seamless customer service from search to purchase, with analytics providing referrals based on prior purchase history.
- Global expansion potential.

The charrette also revealed concerns about increasingly tough price competition, which reduced retail prices and profits.

As a result of these discussions, the charrette completed the FORCSS template, choosing the following highlights across the six FORCSS top level areas:

### Financial

- Maintain pricing in the face of competing online portals (e.g. Amazon), which will require global expansion
- Maintain bottom-line profit
- End annual increasing cost of IT services and application software maintenance and support
- Minimize the cost of global expansion

### Opportunity

- Increase bandwidth and reduce latency to improve online customer experience
- Pursue global expansion
- Utilize applications that are more responsive to customers with an improved analytics pipeline to drive revenue



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## CASE STUDY

- Provide uniform response times and provide a seamless and transparent customer buying experience to improve transaction rates and the volume of completed transactions

### **Risk**

- Manage risk by eliminating the analytics platform, the retailer's largest and most mission-critical application, as a single point of failure
- Develop more consistent staffing expertise (viewed as being available at cloud providers), which may lower risk
- Address concerns about data loss as cloud hosting providers will accept only limited liability
- Ensure availability of cyber-risk insurance policy as underwriting companies require physical inspection and analysis of the network design
- Evaluate additional physical, logical, and MPLS provider requirements to ensure resiliency of the network core

### **Compliance**

- Continue to comply with industry debit and credit transaction processing requirements
- Address potential data residency issues, which are a growing concern, especially in countries like Germany
- Match or exceed current levels of data encryption
- Provide secure data transmission at a level comparable to private leased lines used in new enterprise data centers

### **Sustainability**

- Make IT operations efficient and sustainable to enhance positive client experience and brand perception
- Improve environmental sustainability to reduce energy costs, which would translate into lower costs and improved profit margins





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## CASE STUDY

### Service quality

- Provide premium product and superior customer service
- Address customer desire for human/personal interfaces, not mobile do-it-yourself interfaces

### FORCSS Rankings

Working its way through these FORCSS points, the charrette came to agreement about how to affect the viability and success of each proposed solution. A simple grade of high, medium, or low was used to summarize the discussion. The tables below show how each solution fared in this phase.

### On-Premises:

#### FORCSS - Global Customer Care (CRM/Orders/Analytics):

			FORCSS
<b>Financial</b>	Net revenue impact Comparative cost of ownership Cash & Funding commitment	Medium - Support team costs to support analytics software increasing Low - Analytics software license renewal needed within 18 months Low - Application is site specific	LOW
<b>Opportunity</b>	Time to value Scalable capacity Business leverage & synergy	Medium - Application and core programming skills in place Low - Capacity is fixed, running on owned equipment Low - Does not easily support portfolio geographic diversity	LOW
<b>Risk</b>	Cost of downtime versus availability Acceptable security assessment Supplier flexibility	Medium - Hot D/R site w/network costly to ensure availability High - Security procedures and network tools are in place Medium - Difficult to provide globally support from single instance	MED
<b>Compliance</b>	Government mandates Corporate policies Compliance & certifications to industry standards	Medium - Meets US requirements, but not Germany data retention High - Meets all corporate policies High - Meets all corporate policies	HIGH
<b>Sustainability</b>	Carbon & water impact Green compliance & certifications PUE reporting	Low - 20 year data center w/3 year old IT equipment, not efficient Low - No green certifications in place or possible due to infrastructure Low - Not available due to lack of metering	LOW
<b>Service Quality</b>	Application availability Application performance End-user satisfaction	High - Excellent track record of availability Low - Global performance limitations at edge of customer network Medium - Users satisfied, but limited future high-bandwidth apps	MED
<b>Legend</b>	High = Excellent Business Alignment Low = Poor Business Alignment		



# Mastering FORCSS to Make IT Business Decisions

## CASE STUDY

### Colocation:

#### FORCSS - Global Customer Care (CRM/Orders/Analytics):

			FORCSS
<b>Financial</b>	Net revenue impact Comparative cost of ownership Cash & Funding commitment	Low - Direct impact on revenue generation Low - New analytics software license needed Low - New analytics software license needed	LOW
<b>Opportunity</b>	Time to value Scalable capacity Business leverage & synergy	Medium - Would port existing apps, but programmers needed Low - Capacity is fixed, would need to be purchased Low - Does not easily support portfolio geographic diversity	LOW
<b>Risk</b>	Cost of downtime versus availability Acceptable security assessment Supplier flexibility	Low - Cost of D/R and network is high, SLA doesn't cover outage costs Medium - Insurance won't cover shared network exposures Medium - Global instances possible	MED
<b>Compliance</b>	Government mandates Corporate policies Compliance & certifications to industry standards	High - Would meet US and German requirements High - Meets all corporate policies Medium - Networking security certifications needed	MED
<b>Sustainability</b>	Carbon & water impact Green compliance & certifications PUE reporting	Medium - Traditional design requires significant water usage Medium - Traditional data center is LEED certified Medium - Colo provider provided	MED
<b>Service Quality</b>	Application availability Application performance End-user satisfaction	Low - No hot app failover available, must create hot/hot instance Medium - Global site location and performance can be architected Medium - User satisfaction can be architected via global APPs	MED
<b>Legend</b>	High = Excellent Business Alignment Low = Poor Business Alignment		



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### Cloud SaaS Solution:

#### FORCSS - Global Customer Care (CRM/Orders/Analytics):

			FORCSS
<b>Financial</b>	Net revenue impact Comparative cost of ownership Cash & Funding commitment	High - Quick rollout as SaaS per geography will boost revenue High - No individual SaaS Licenses needed High - Pay for use only, OpEx not CapEx	HIGH
<b>Opportunity</b>	Time to value Scalable capacity Business leverage & synergy	Medium - Initial application would need to be ported High - Burstable CPU, storage network readily available High - Global Cloud instances can be easilii replicated	HIGH
<b>Risk</b>	Cost of downtime versus availability Acceptable security assessment Supplier flexibility	Medium - Little monetary compensation by provider Medium - Networking security must be architected High - Global provider and instances	MED
<b>Compliance</b>	Government mandates Corporate policies Compliance & certifications to industry standards	High - Would meet US and German requirments High - Can architect to meet all corporate policies High - Meets all corporate policies	HIGH
<b>Sustainability</b>	Carbon & water impact Green compliance & certifications PUE reporting	High - Free cooling design requires no water usage High - Site LEED and Industry innovation awards High - Yes, less than 1.2	HIGH
<b>Service Quality</b>	Application availability Application performance End-user satisfaction	High - Application provided as service with in region failover High - Application can be mirrored globally High - Excellent edge of network response time and throughput	HIGH
<b>Legend</b>	High = Excellent Business Alignment Low = Poor Business Alignment		

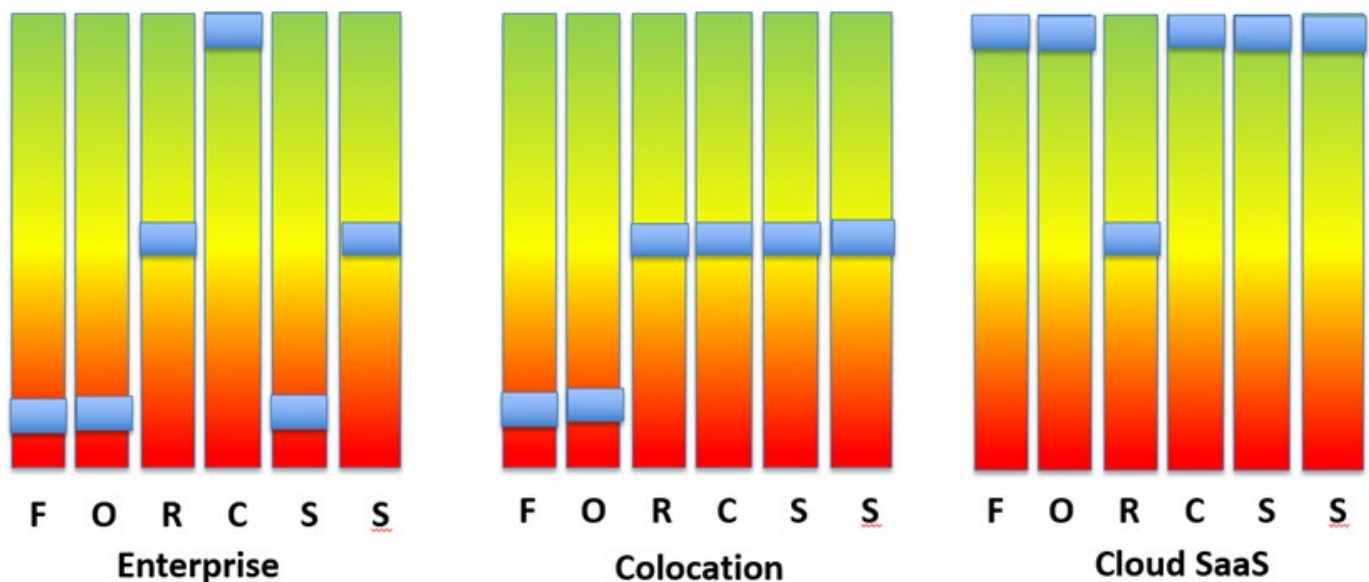
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### FORCSS Index:

The final step was to develop the FORCSS index using the group's findings to visualize results to provide a relative comparison of each solution considered.

## FORCSS™ Index



FORCSS validated the preferred (SaaS) strategy and clearly identified it as the best solution in terms of improved time to market because of readily available and scalable IT resources, corporate and government compliance attainment, improved IT sustainability messaging, and ensuring applications availability, growth, and performance, all of which would enhance the customer experience and the retailer's brand.

Equally importantly, the FORCSS analysis identified areas that were comparatively weak, for awareness to ensure they did not turn into business risks. Though no elements were deemed low or unacceptable, further improvement areas were identified, especially in the area of networking security, which if breached would have a very detrimental impact on the number one goal of "superior customer experience." All agreed that risk reduction actions would be identified and implemented.

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## CASE STUDY

### FORCSS Case Study Take-Aways

FORCSS methodology enabled this retailer to “cut through the technology noise” to focus on what was most important to its business, which was then weighted and evaluated to determine the best fit of the three alternatives considered. Utilizing the FORCSS methodology involved all the stakeholders and subject matter experts needed for decision making to ensure there were no “blind spots” in the questions asked or decisions made, enabling the organization to support the strategy and articulate rationale to executive management.

In this case study, some of the retailer’s personnel felt they knew what the strategy “should be” but they could not communicate “why” and were perhaps a little unsure of themselves. Utilizing the FORCSS analysis provided the assurance that even though not all planning requirements were known, or all information may not be 100% complete, that the best execution venue had been selected due to the completeness and depth of the question areas and participants involved.

The findings generated by FORCSS and the easily visualized and understood results, fostered and enabled business decision making with a high degree of confidence with buy-in across the company from technologists to finance to the C-suite.

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Todd J. Traver is vice president–IT Optimization and Strategy, Uptime Institute, comma, where he provides thought leadership and is responsible for expanding Uptime Institute offerings. Todd joined Uptime Institute in January 2016, bringing over 30 years’ experience in all aspects of data center and IT planning, reliability design, and operational efficiency. Previously, Todd was IBM GTS’s chief engineer and senior technical staff member responsible for developing global data center portfolio technology strategy, tools, operational, and process optimization plans.

Kevin Heslin is chief editor and director or Ancillary Projects, Uptime Institute. As chief editor, Kevin helped launch two new Uptime Institute information projects, Inside Track and *The Uptime Institute Journal*. At Uptime Institute, he has authored and co-authored numerous papers and case studies. Kevin has a more than 30-year career examining energy and sustainability issues from the end-user perspective. He has worked in academic, non-profit, and standards organizations, in addition to serving as editor of various print publications.