



The New Design Economy

20 September 2011



Stephen Fiskum, AIA
Chief Operating Officer







A control panel with two joysticks and a grid of buttons, used for operating the medical equipment in the procedure room.

OR122







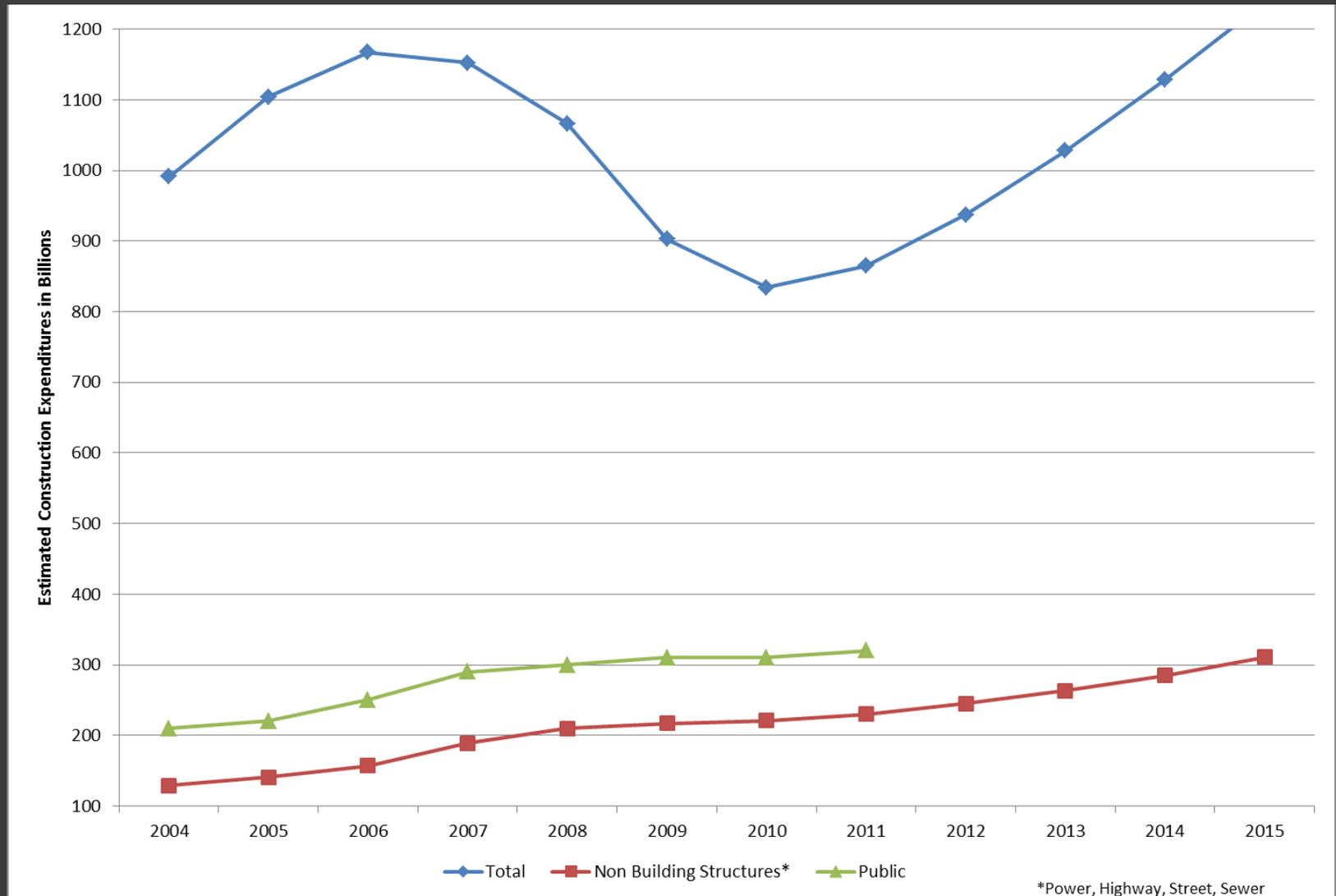


SUMMARY

- Construction Expenditures
- Design Industry Trends
- AIA Minnesota Carlson School Study
- AIA Minnesota Public Relations Task Force
- HGA Knowledge Based Design

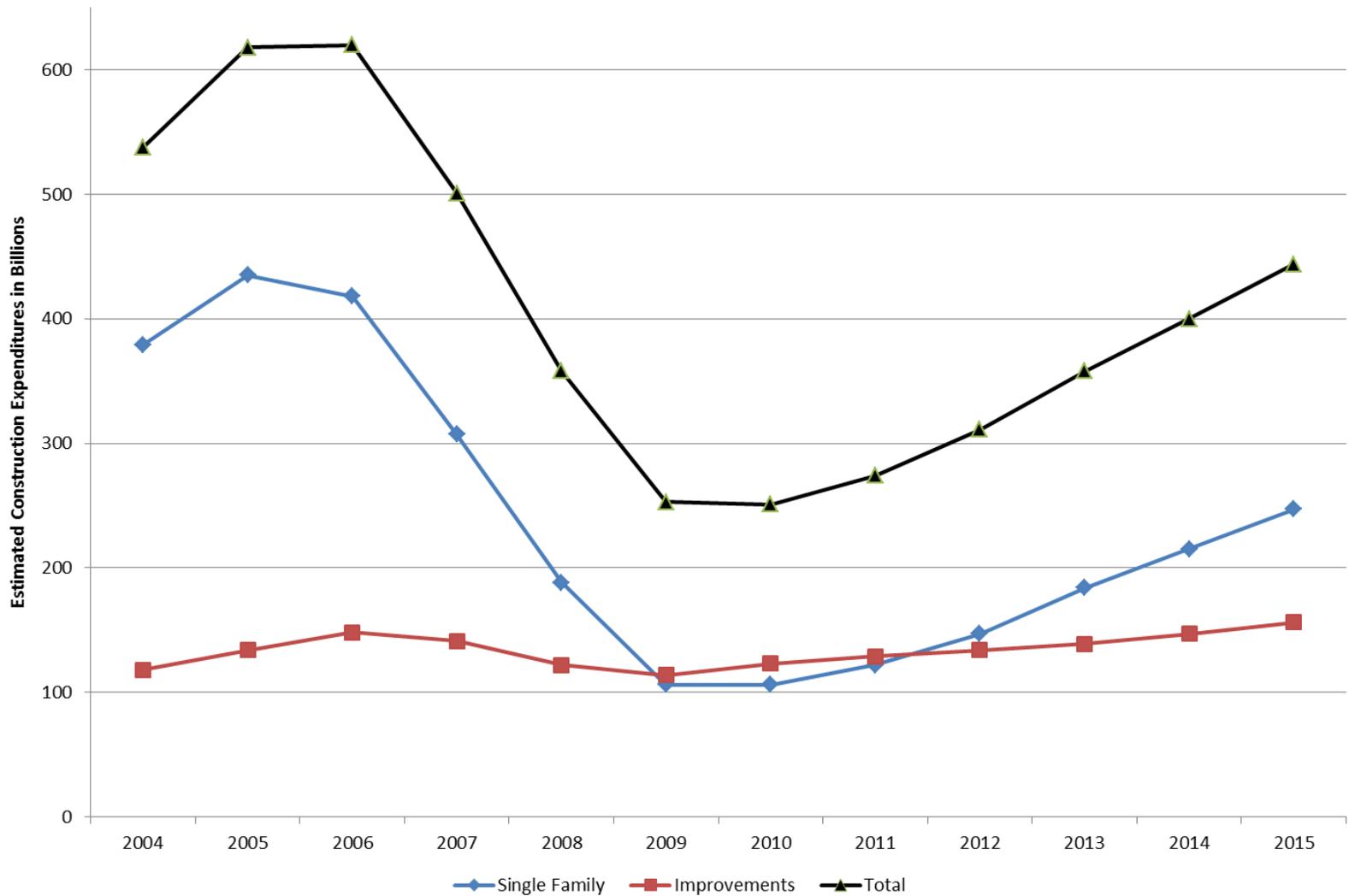
Construction Expenditures

Total Construction



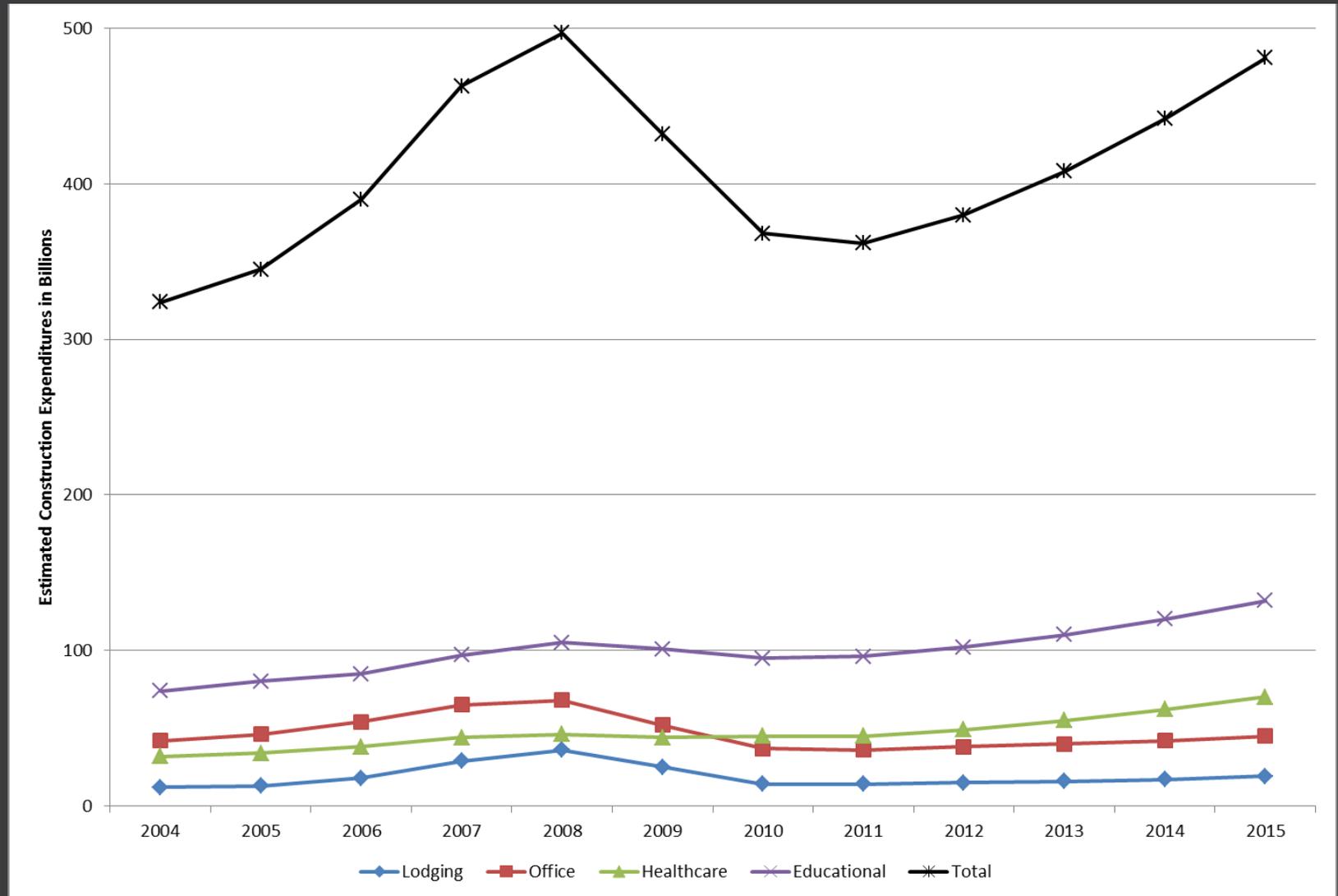
Construction Expenditures

Residential Buildings



Construction Expenditures

Non-Residential Buildings



OHIO OUTLOOK

- Gross Domestic Product
- GDP Recovery in 2011
- Employment Trends
- Long Term Growth Occupations
- Long Term Stable Occupations

Architecture to experience modest growth

GLOBAL TRENDS

Mutually Reinforcing and Driving Trends

- Technology
- Connectivity
- Globalization and New Economics

Thomas Friedman

Kurt Anderson

Dan Pink

Friedman's "Ten Flatteners"

Design Industry TRENDS

Relentless Pressure of Commoditization



Four Contributing Forces

- Technology
 - Codifying and standardization
- Productization
 - Packaging solutions in the form of products
- Transparency
 - Unlike in the past, firms today are relatively transparent
- Client sophistication and expectations
 - Clients ask multiple firms for their best ideas

Challenges

- Heads-down professionals may miss
- Design professionals are often slow to embrace new roles
- Construction documentation as we know it has a limited future
- Our sweet spot of marketplace, talent, and passion may need redefinition

Design Industry TRENDS

New Collaborative Delivery Models



Design Industry

- Integrated project delivery
- Design-build delivery
- Bridging design-build delivery
- Developer-led enhanced lease delivery

Challenges

- New contractual relationships require nimble teams and processes
- Greater interdependence of parties impacts success
- Long-established cultural norms are barriers to change
- Successful teams celebrate both iterative process and linear process

Design Industry TRENDS

Scale is Strategic



Design Industry

- The pace of mergers and acquisitions is accelerating
- M&A drivers include proactive strategy or reactive transition needs
- Competitors now include 50,000-person organizations
- Large mega-firms and small boutiques will predominate

Challenges

- Successful mergers are driven by the delivery of new client benefits
- Management depth impacts an enterprise's ability to grow
- Alignment of leadership on business/practice spectrum is essential
- Values of organizations should be unambiguous

Design Industry TRENDS

Changing Demographics



Design Industry

- Four generations in the workplace
 - Traditionalists, Boomers, Gen X and Gen Y
- Current economic malaise impacts full spectrum of the workforce
- Economic events exacerbate changing workplace demographics
- Current recession raises fears of a lost generation in A/E industry

Challenges

- Shortages of mid-career experienced leaders and client managers
- Mentoring, training and development have critical importance
- Generations respond to different motivators
- Firms need to respond to new work/life balance attitudes

Design Industry TRENDS

Technology is Disruptive



Design Industry

- BIM enables new collaborative processes that threaten traditional practice
- Struggle for control of the BIM model – winners will dominate
- Increasing misalignment of technological capability and practical experience
- Documents as instruments of service may morph into products

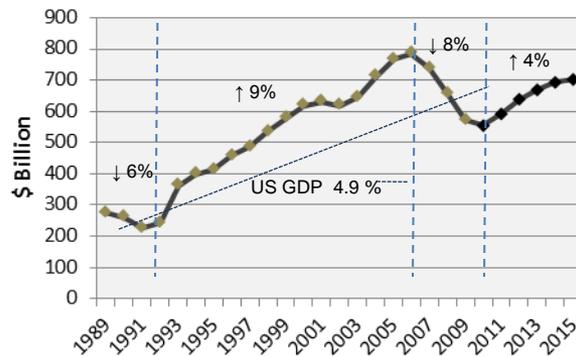
Challenges

- Standard of care will evolve to higher levels
- Financial limitations may impact designer control of software model
- Old methods of teaching and mentoring are less effective
- Technologically challenged workers have less value – see Coaching Up

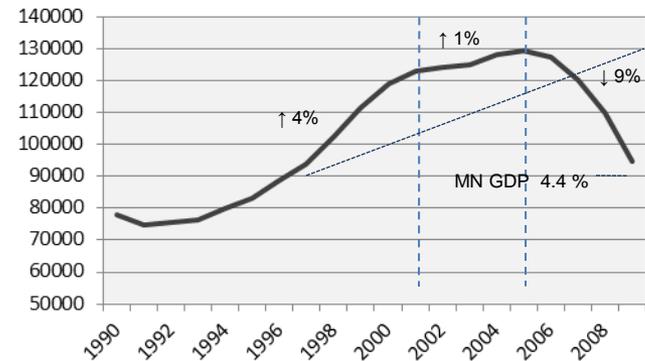
Construction Outlook

The construction industry will experience slight growth in 2010 and continue to grow slowly in the following years.

Construction Revenue in US



Construction Employment in Minnesota



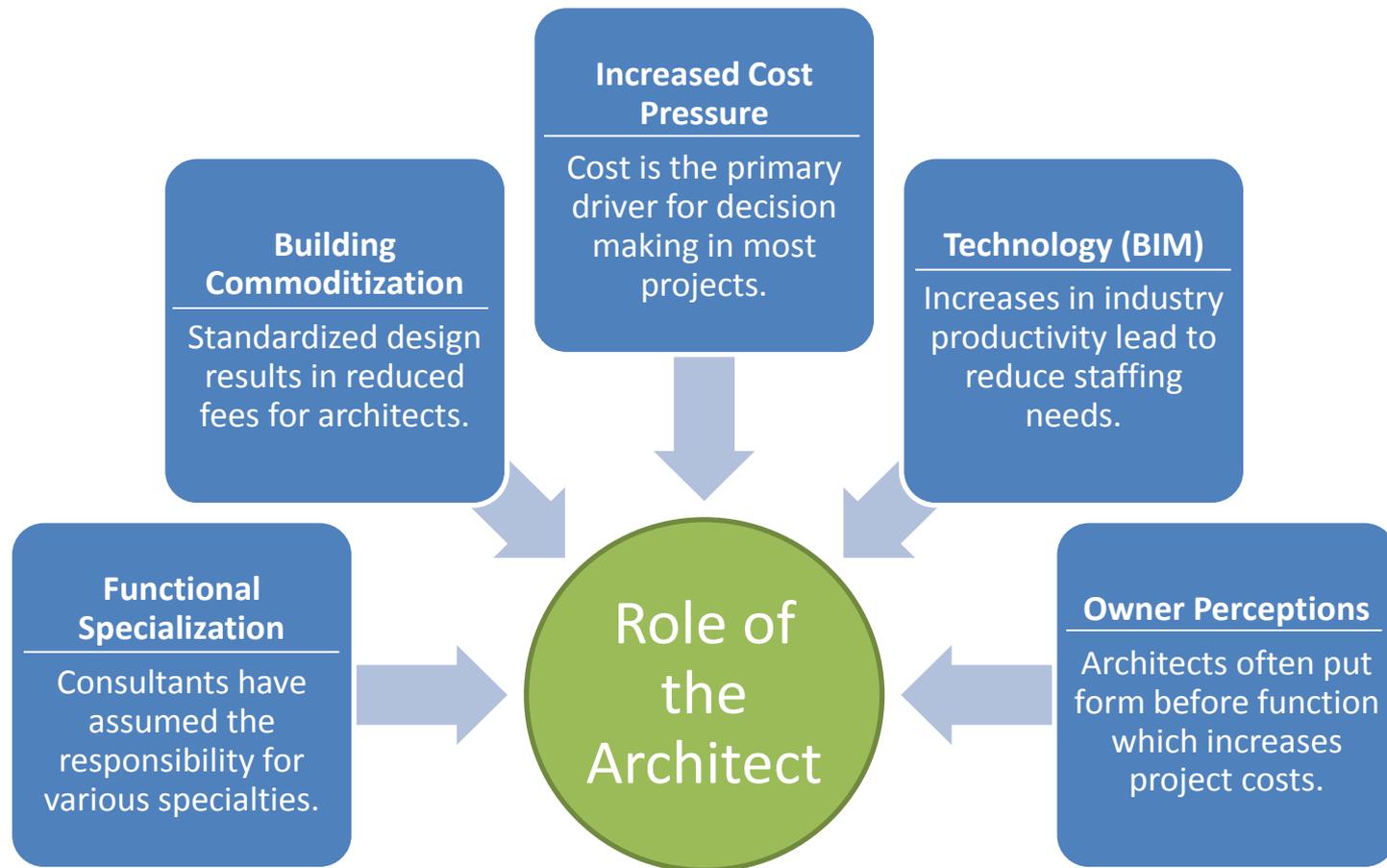
- Office and health care construction grew 15% and 8.5% respectively per year from 2005-2007
- Construction industry is expected to have cyclical growth matching US GDP
- Average growth in value of total construction through 2014 is projected to increase 4.1% annually
- Non-residential building construction is projected to grow at 0.7% per year until 2014

Source: IBIS, Minnesota Department of Employment and Economic Development

What Has Changed?

Several issues have combined to pressure the role of the architect. These are reducing the influence of the architect in the overall construction process.

Five Major Issues



Value Chain, Roles, and Responsibilities: Once Upon a Time...

Architects used to control most aspects of the build process including serving as owner's representative, key decision maker for all downstream changes, and overseer of construction.

	Owner	Architect	Consultants*	General Contractor	Sub-contractors
Creative direction	X	X			
Financial responsibility	X				
Owner's agent		X			
Schematic design		X			
Detailed design		X	X		
Cost estimation		X			
Construction/bid documents		X	X		
Construction oversight		X			
Construction				X	X

*Consultants include engineers for mechanical, electrical, plumbing, structural, and civil.

Source: Interviews with real estate developers, architects, and contractors; Carlson Consulting Enterprise

Value Chain, Roles and Responsibilities: Program Managers

Architects currently control fewer aspects of the build process, many of which are now owned by Program Managers. As a result, architects are capturing less potential revenue from the process.

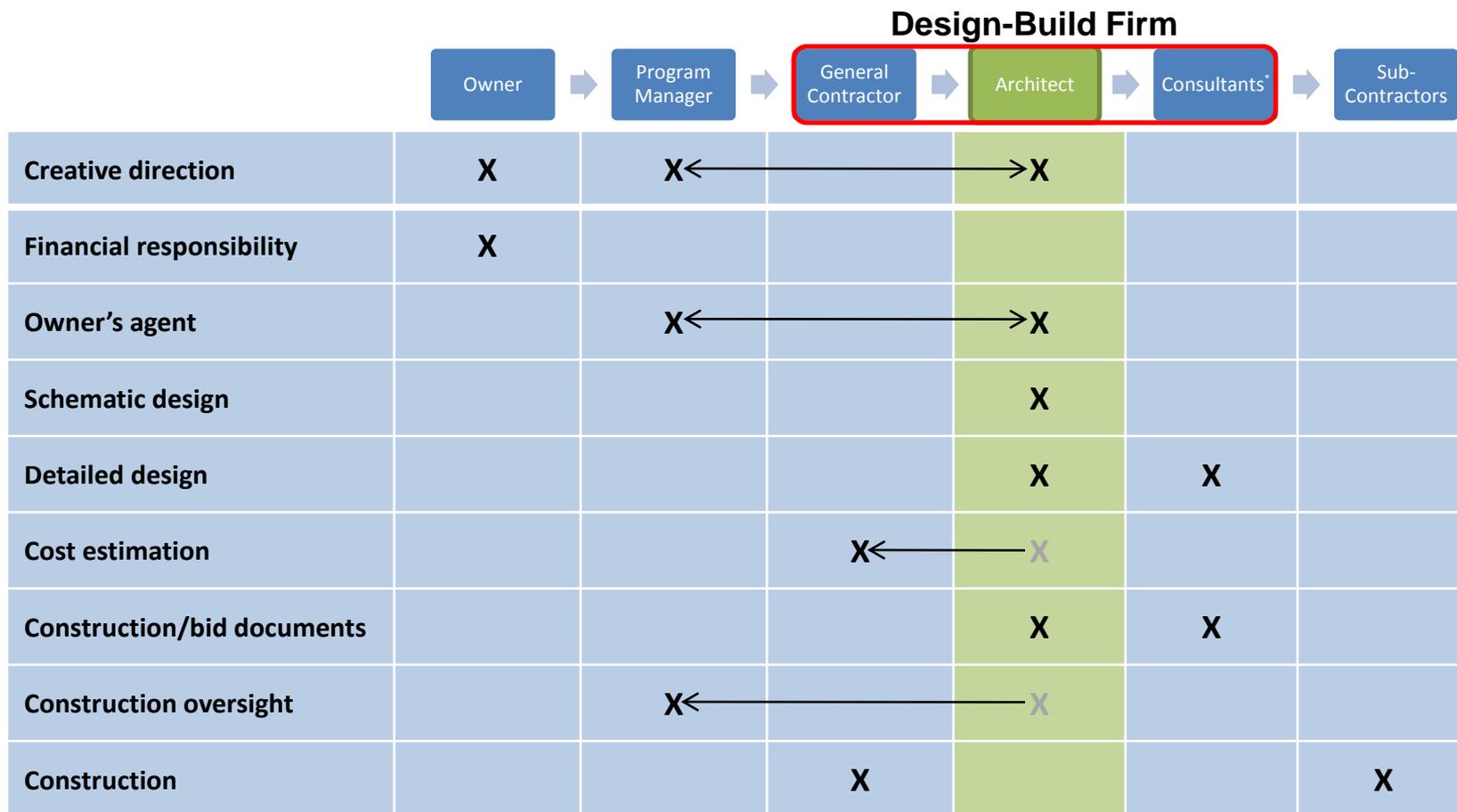
	Owner	Program Manager	Architect	Consultants*	General Contractor	Sub-Contractors
Creative direction	X	X ← → X	X			
Financial responsibility	X					
Owner's agent		X ← → X				
Schematic design			X			
Detailed design			X	X		
Cost estimation		X ← → X	X			
Construction/bid documents			X	X		
Construction oversight		X ← → X	X			
Construction					X	X

*Consultants include engineers for mechanical, electrical, plumbing, structural, and civil.

Source: Interviews with real estate developers, architects, and contractors; Carlson Consulting Enterprise

Value Chain, Roles and Responsibilities: Design-Build Firms

Design-Build Firms are playing a more prominent role, which has deemphasized the architect's role and distanced the architect from the centralized decision makers.

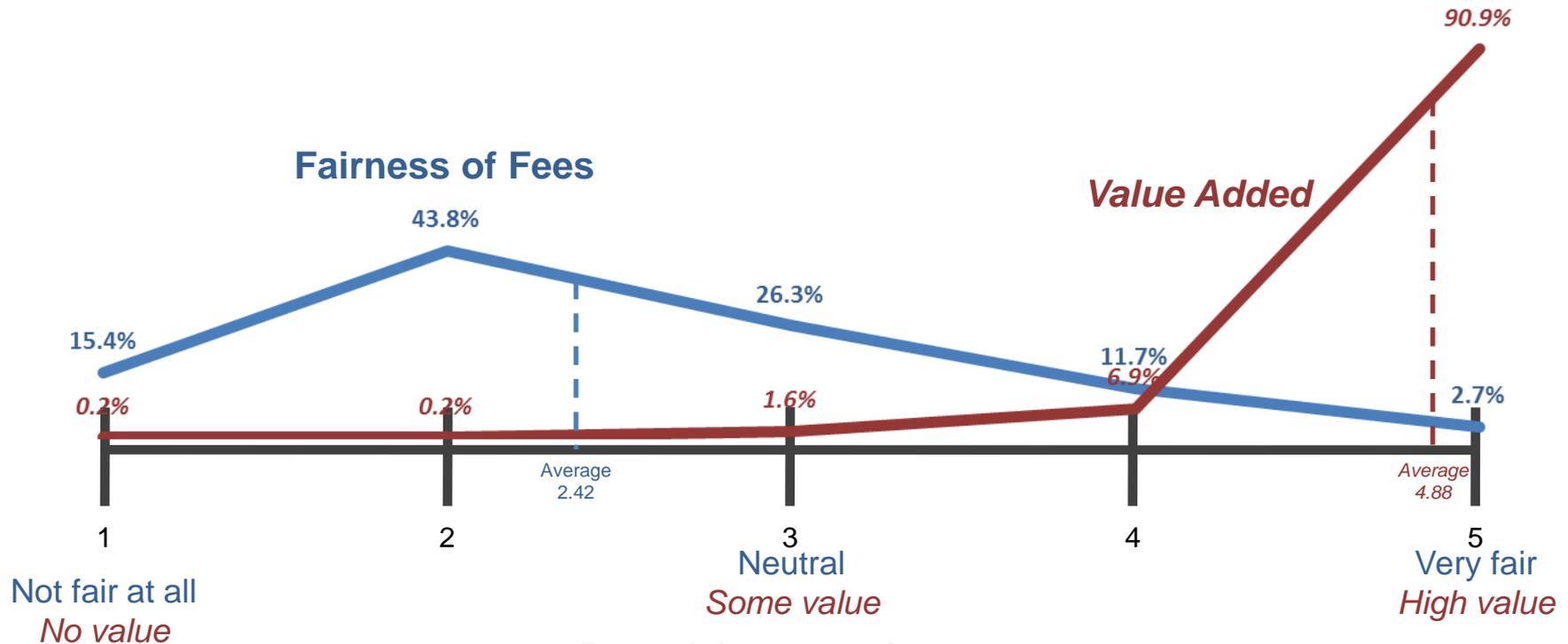


*Consultants include engineers for mechanical, electrical, plumbing, structural, and civil.

Source: Interviews with real estate developers, architects, and contractors; Carlson Consulting Enterprise

Gap Between Fees and Value Added

Architects believe they add high value to the construction process but think they are receiving disproportionately low fees.



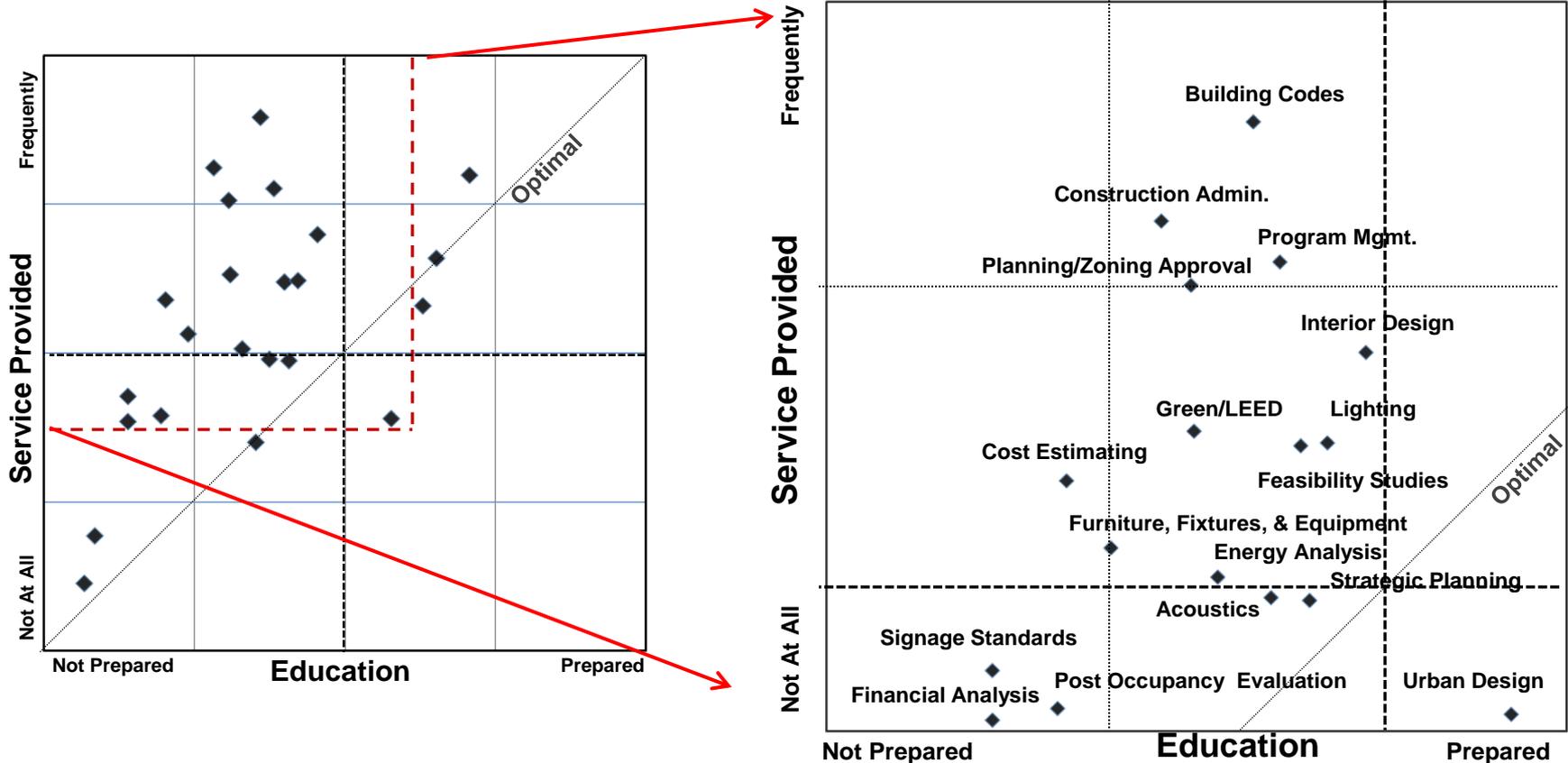
Potential reasons for gap

- Architects believe they add more value than reality
- Other players do not fully realize the importance of an architect
- Other players may be trying to squeeze lower fees out of the architect
- Architects may be trying to be paid higher for the value they add to the project

Source: Survey for AIA Members, Carlson Consulting Enterprise

Gap Between Services and Education

Architects feel underprepared to provide many of the services that are currently demanded by their clients.



Source: Survey for AIA Members, Carlson Consulting Enterprise

Total responses: 370

Lessons Learned From Print Media

Companies that viewed the internet as a growth opportunity and transformed their business models survived, while companies that viewed the internet as a competitor suffered.

The internet boom of the late 1990's has opened up a new and easily accessible channel for delivering news, creating these two issues for traditional newspaper companies:

- New online competitors (e.g. yahoo news, monster.com for job classifieds)
- Reduced fees as advertisers and readers migrated online

Prior to Response

News delivered through print and online version of the print. Online advertising was essentially a copy of print advertising.

New business model used the internet as a way to deliver news faster, and advertise more effectively and efficiently.

Outcome

Surviving companies found growth by utilizing a new business model that delivered up to the minute news on demand with targeted advertising to consumers.

Lessons Learned From Accounting

Accountants have remained relevant because they exploited opportunities for expansion of services and have created meaningful certifications.

Evolving business and regulatory environment has forced accountants to look beyond providing traditional accounting services:

- Technology squeezed basic accounting work
- Businesses needed better ways to manage financial information

Prior to Response

Basic accounting services were not providing the level of service required by customers and did not differentiate the accountant from a bookkeeper.

Accountants took initiative to expand role of accounting and made certifications more accessible while maintaining standards.

Outcome

Certified accountants became increasingly important to the business environment and have become a necessity for all public companies.

Lessons Learned From Human Resources

Human Resources has evolved as an industry into functional specialties that are easily outsourced to specialty consultants.

As companies look for ways to reduce costs, HR activities that add less value became commoditized as specialty firms could provide services more cost effectively:

- Emergence of payroll processing and executive recruitment firms
- HR was forced to define and communicate its core value

Prior to Response

HR specialties within a company that add less value are outsourced. Strategic elements (organizational design, etc...) are retained.

HR workers migrated to specialty firms (payroll processing, executive recruitment, etc...).

Outcome

HR workers moved to specialty firms that fulfill client needs within a given niche more cost effectively than the company could achieve on its own.

Source: IBIS World, interview with Robert Vellella, Carlson School of Management.

Lessons Learned From Other Industries

The strategies with the best outcomes integrated the ability to adapt while reinforcing the core value each industry provides.

Catalyst

Primary Strategies

Outcome

Functional Specialization

- Activities that add less value become commoditized and are eventually outsourced

- Core activities remain that provide the most value

Technology

- Develop new business model
- Reinforce the value of licensure and professional judgment

- Industry becomes more efficient and productive

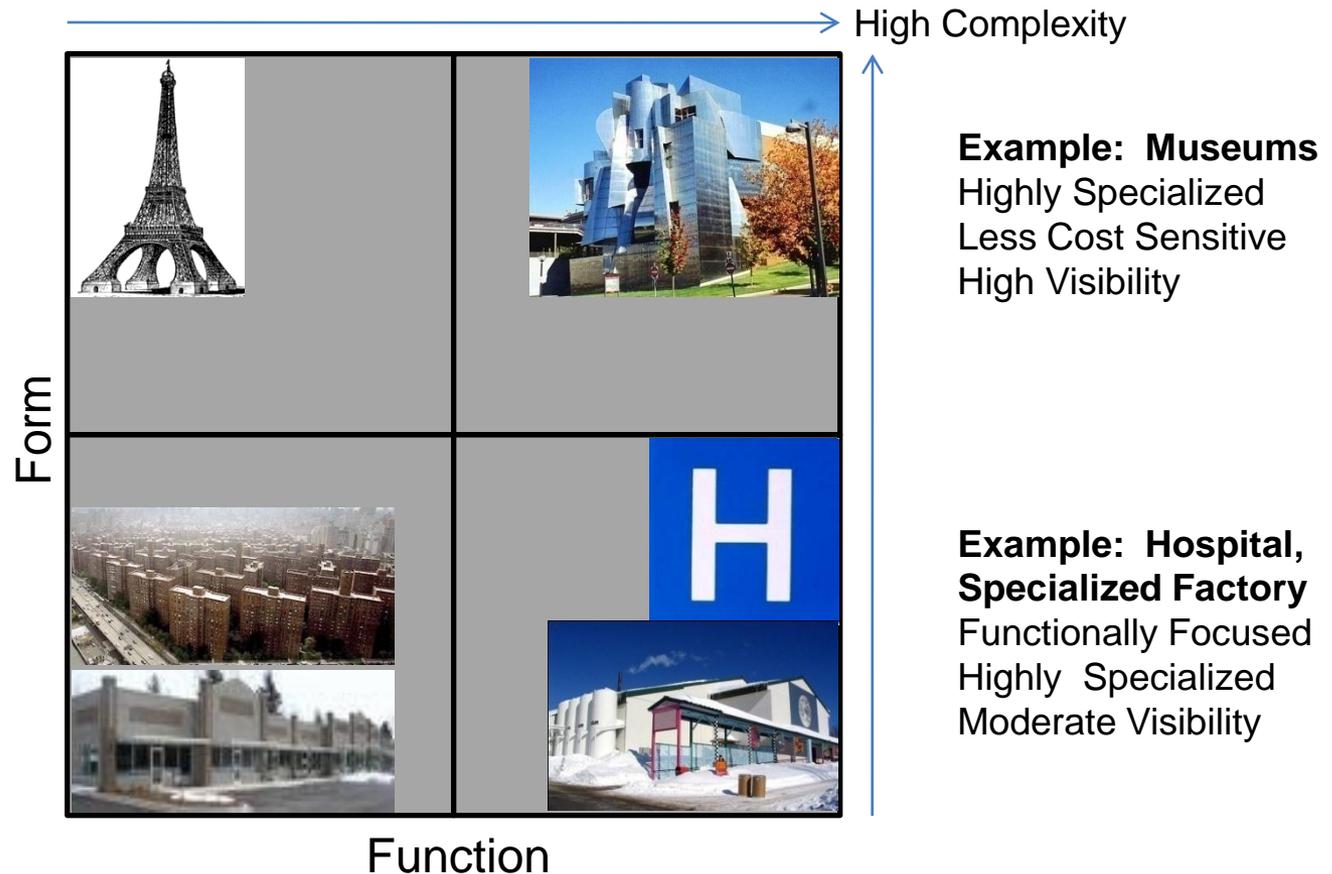
Reduced Perception of Value

- Develop integrated marketing communications to reinforce the value being provided

- Owners will have a better understanding of the value of an architect

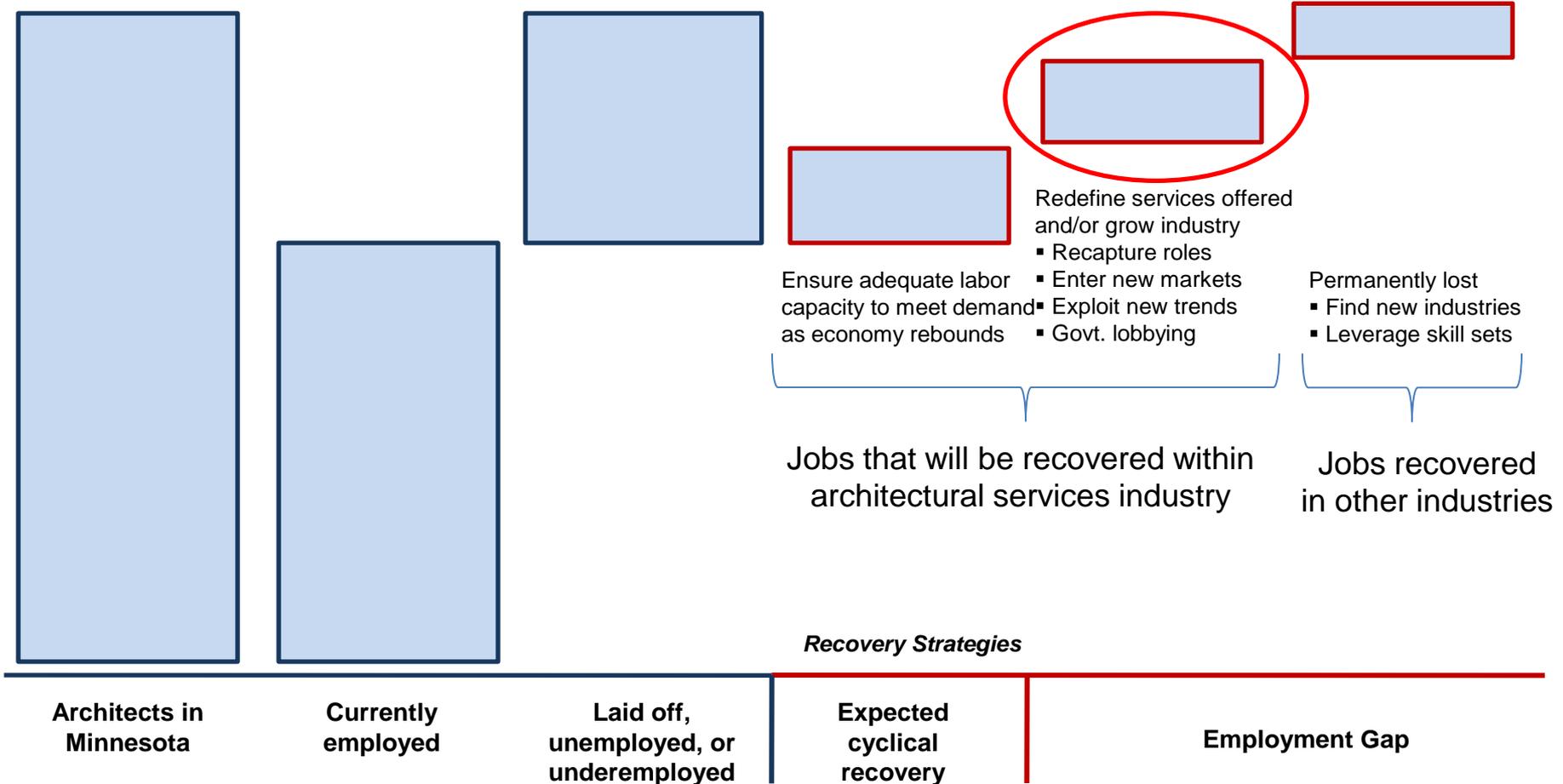
Architects' Core Competence: Two Sources of Value

Other industries retain the sources of value that are most difficult to imitate. For architects, this value is provided through the form and function of a building.



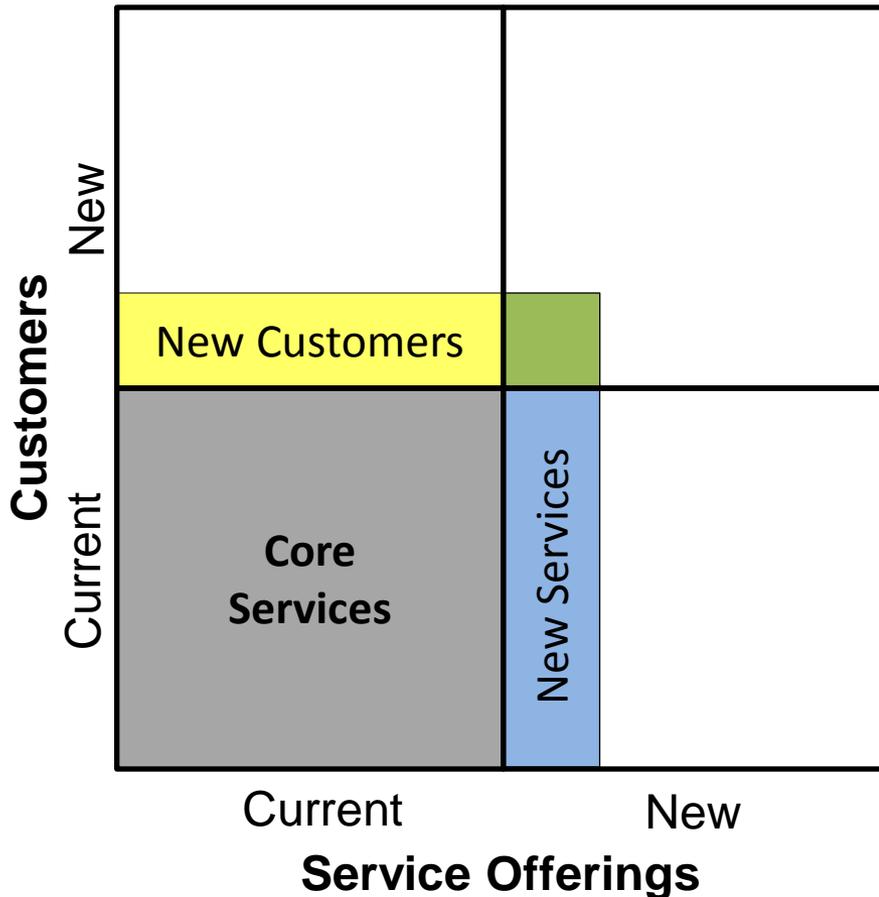
Where Do AIA-MN Firms Go From Here?

Architects will have to employ several strategies to recover from the recent recession.



Business Expansion

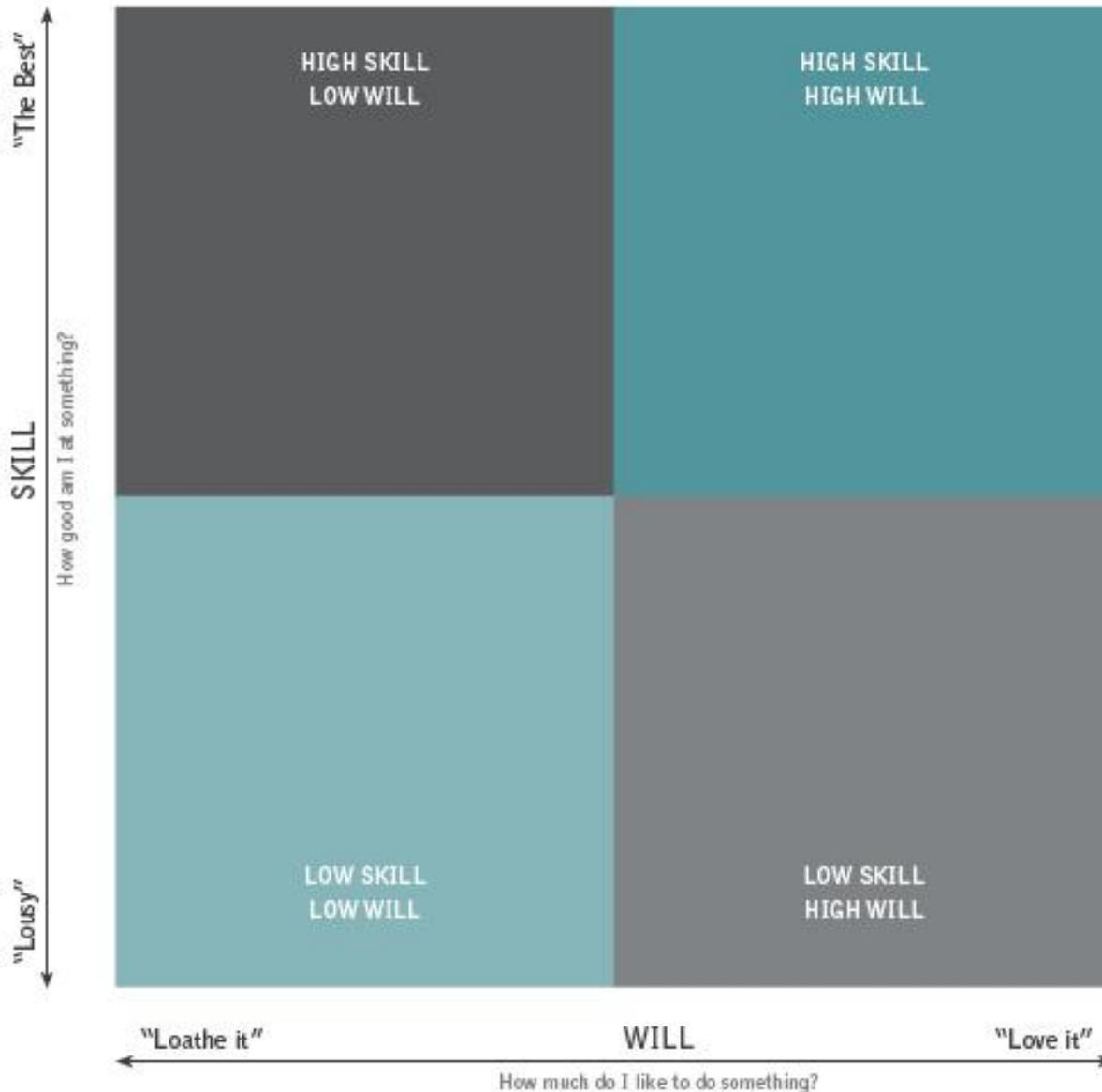
Opportunities exist for architects to redefine the services they are currently offering their customers. Opportunities to target new services and customers should be pursued once core operations are optimized.



Prioritization

- 1) Strengthen the Core: Effectively communicate the value of current services to current customers
- 2) Expand Service Offerings: Develop and test new service offerings with current customer group
- 3) Pursue New Customers: Market current services to new potential customers
- 4) Market new proven service offerings to new customers

 SKILL - WILL
Matrix



- 1) Identify tasks needed in your firm.
- 2) Place each in the appropriate quadrant according to your WILL (Passion) and SKILL (Talent).
- 3) Circle those most critical for your firm's success.
- 4) Find your "Sweet Spot"; the intersection of:
Your Talent
Your Passion
The Marketplace



SKILL - WILL

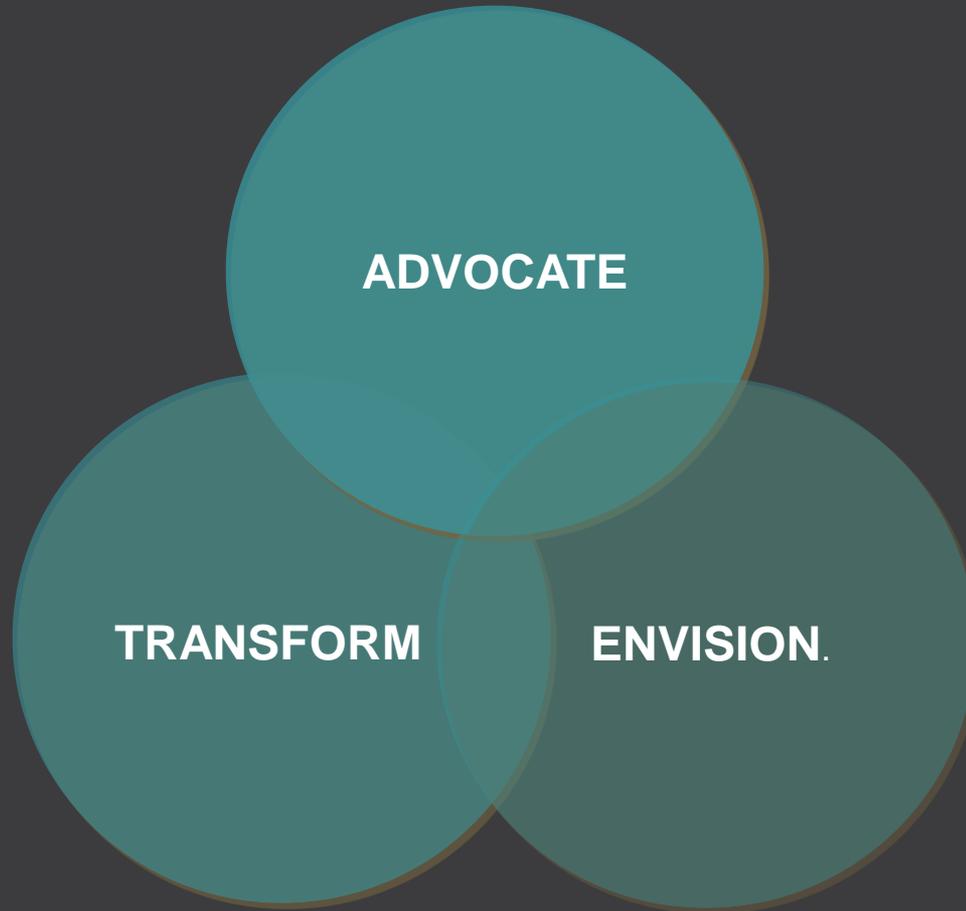
Matrix

Examples: Generic Skills

1.0	Design	3.0	Construction Administration	5.6	Cold Calling	8.0	Finance
1.1	Planning	3.1	Bidding and Negotiation	5.7	RFQ's and RFP's	8.1	Bank Relationships
1.2	Programming	3.2	Document Management	5.8	Interviews	8.2	Billings
1.3	Pre-Design	3.3	Construction Observation	5.9	Closing	8.3	Payroll
1.4	Schematic Design	3.4	Discipline Coordination	5.10	Contract Negotiation	8.4	Accounts Payable
1.5	Review and Critique	3.5	Field Orders	5.11	_____	8.5	Accounts Receivable
1.6	Environmental Analysis	3.6	On-Site Meetings	5.12	_____	8.6	Financial Projections
1.7	Design Reviews	3.7	Pay Requests			8.7	Audit
1.8	Discipline Coordination	3.8	Punch List	6.0	General Management	8.8	_____
1.9	Codes and Standards	3.9	Close Out	6.1	Information Technology	8.9	_____
1.10	Cost Management	3.10	Post Occupancy Evaluations	6.2	Office Services		
1.11	Outline Specifications	3.11	Performance Measurement	6.3	Insurance	9.0	Other
1.12	Verbal Presentation	3.12	Correspondence	6.4	Legal	9.1	_____
1.13	Written Presentation	3.14	_____	6.5	Facilities	9.2	_____
1.14	Visual Presentation	3.15	_____	6.6	Equipment and Maintenance	9.3	_____
1.15	Correspondence			6.7	Cadd Systems		
1.16	_____	4.0	Project Management	6.8	Knowledge Management		
1.17	_____	4.1	Team Formation	6.9	_____		
		4.2	Communications	6.10	_____		
2.0	Design Development	4.3	Staff Assignments				
2.1	Design Development	4.4	Scheduling	7.0	Human Resources		
2.2	Review and Critique	4.5	Budgeting	7.1	Recruitment		
2.3	Environmental Analysis	4.6	Work Plan Development	7.2	Retention		
2.4	Detailing	4.7	Consultant Management	7.3	Performance Management		
2.4	Technical Reviews	4.8	Monitoring	7.4	Training and Development		
2.5	Discipline Coordination	4.9	_____	7.5	Coaching		
2.6	Codes and Standards	4.10	_____	7.6	Mentoring		
2.7	Cost Estimating			7.7	Employee Relations		
2.8	Detailed Specifications	5.0	Marketing and Sales	7.8	Compensation and Payroll		
2.9	Value Selection	5.1	Strategy	7.9	Benefits Administration		
2.10	Quality Assurance	5.2	Tactics	7.10	Health Safety and Security		
2.11	Correspondence	5.3	Networking	7.11	Compliance		
2.12	_____	5.4	Community Involvement	7.12	_____		
2.13	_____	5.5	Public Relations	7.13	_____		

Key Messages Themes

AIA Minnesota - Public Relations Task Force



Key Messages Themes

AIA Minnesota - Public Relations Task Force

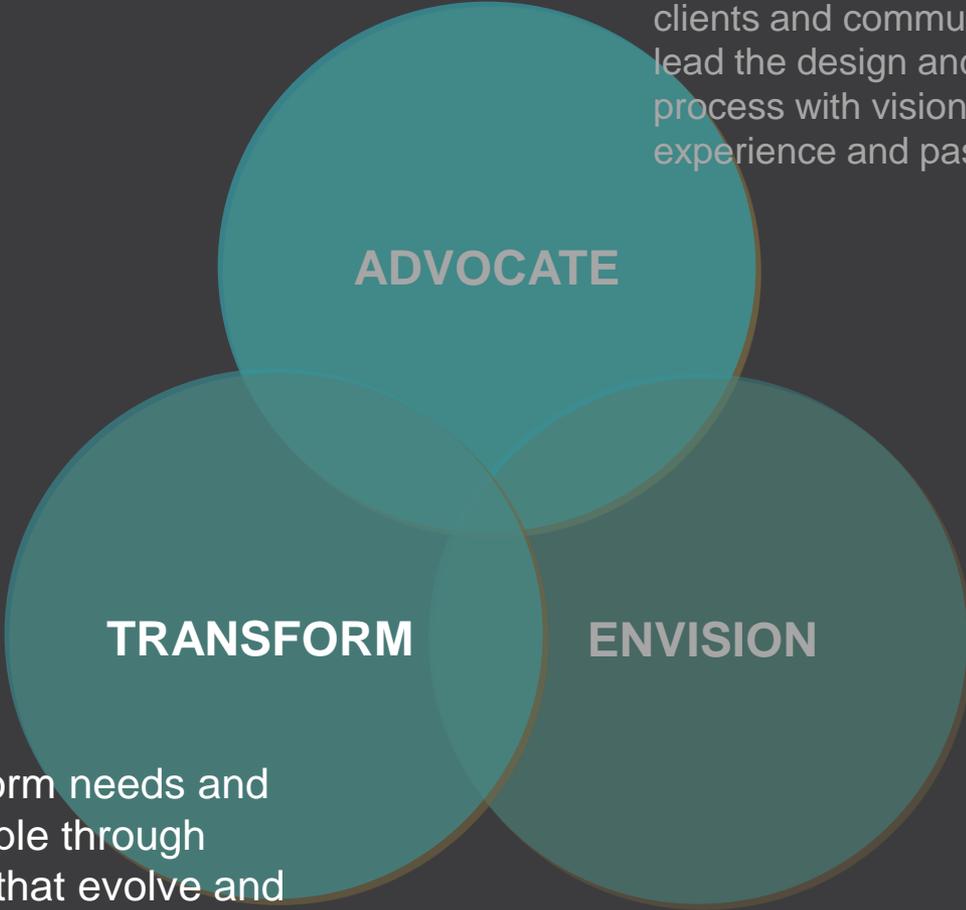
Architects advocate for their clients and communities and lead the design and delivery process with vision, skill, experience and passion.



Key Messages Themes

AIA Minnesota - Public Relations Task Force

Architects advocate for their clients and communities and lead the design and delivery process with vision, skill, experience and passion.



ADVOCATE

TRANSFORM

ENVISION

Architects transform needs and aspiration of people through design solutions that evolve and enhance homes, neighborhoods, businesses and communities

Key Messages Themes

AIA Minnesota - Public Relations Task Force

Architects advocate for their clients and communities and lead the design and delivery process with vision, skill, experience and passion.

ADVOCATE

TRANSFORM

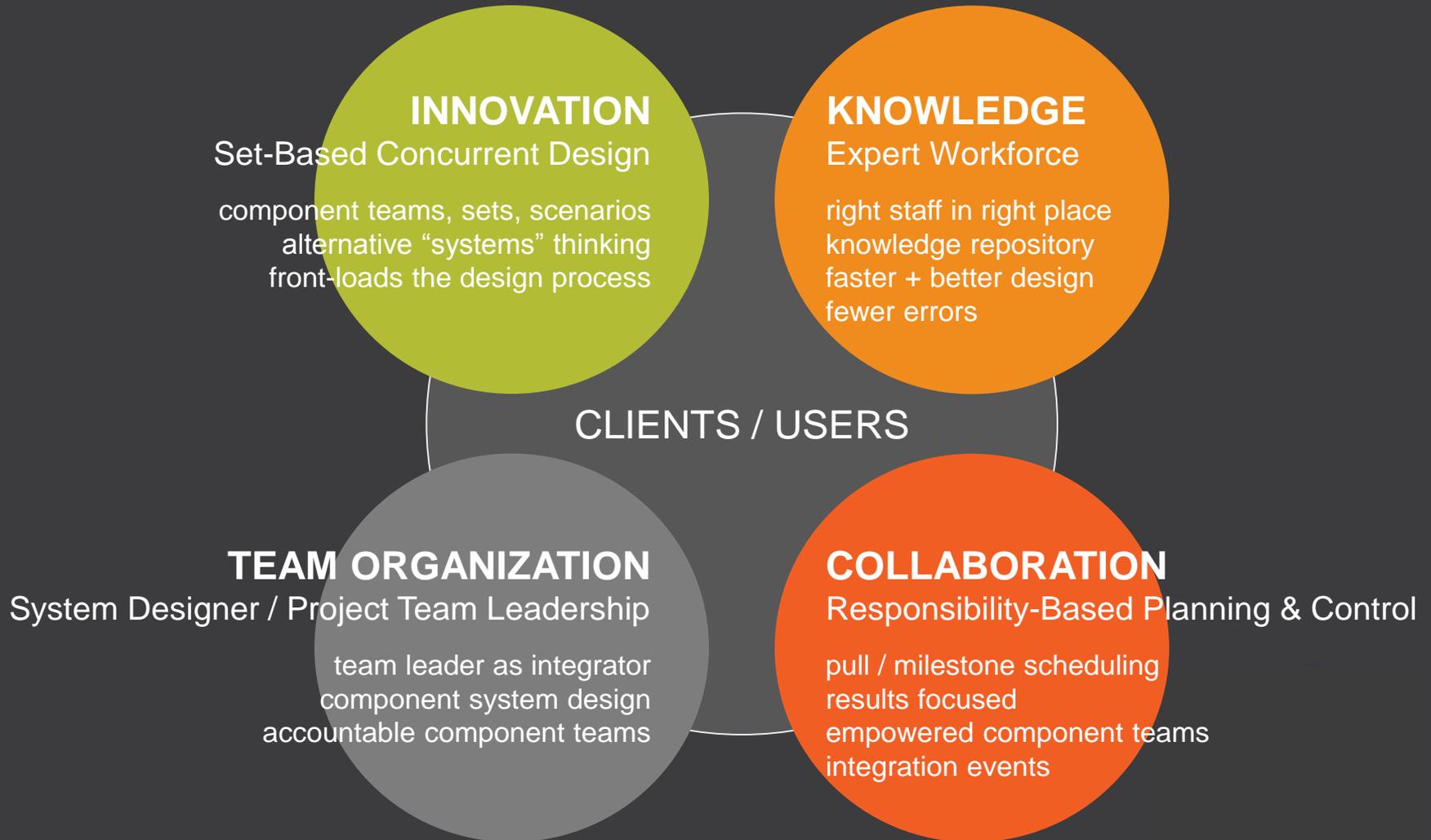
ENVISION.

Architects transform needs and aspiration of people through design solutions that evolve and enhance homes, neighborhoods, businesses and communities

Architects envision new possibilities and invent the future with expertise and collaboration.

KBD Cornerstones

Foundation

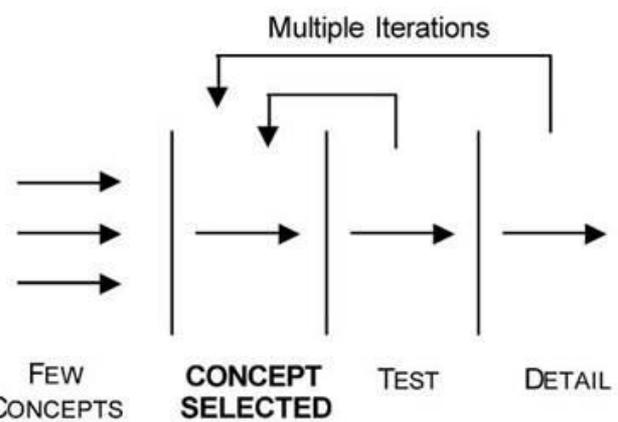


Set-based Design

FIGURE 4: TOYOTA'S SET-BASED DESIGN VS. TRADITIONAL POINT-BASED DESIGN

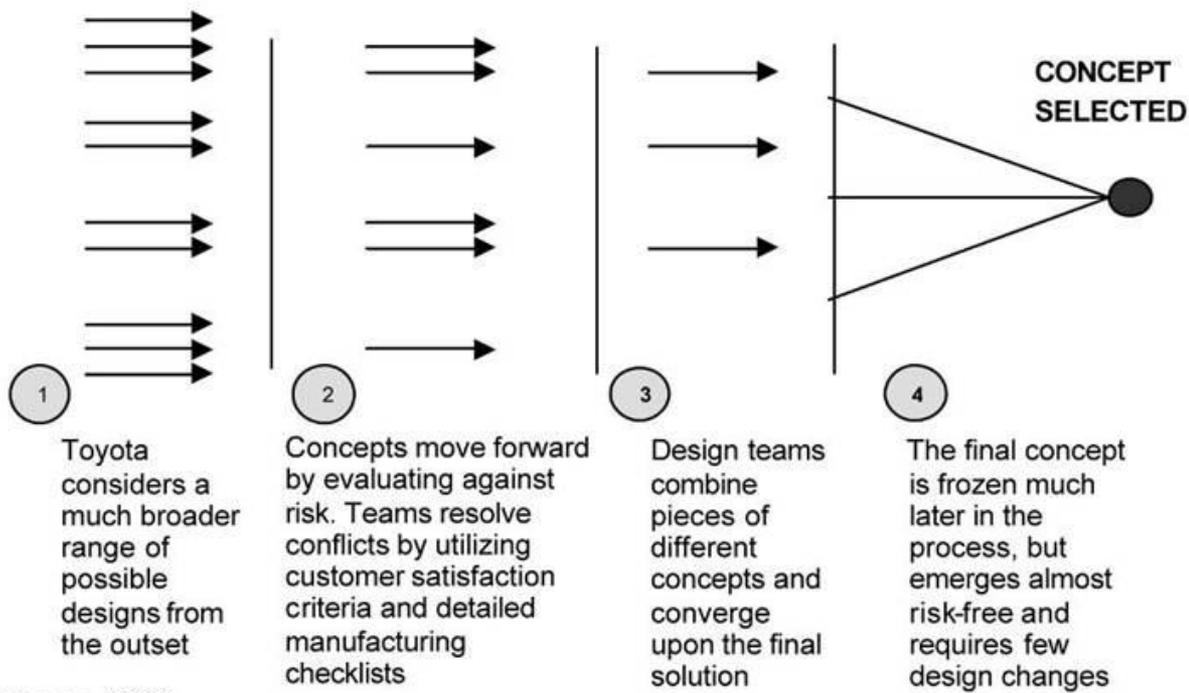


Traditional Point-Based Design Process



More traditional processes freeze the design early in the process, often resulting in a series of costly and time-consuming iterations further downstream

Toyota's Set-Based Design Process

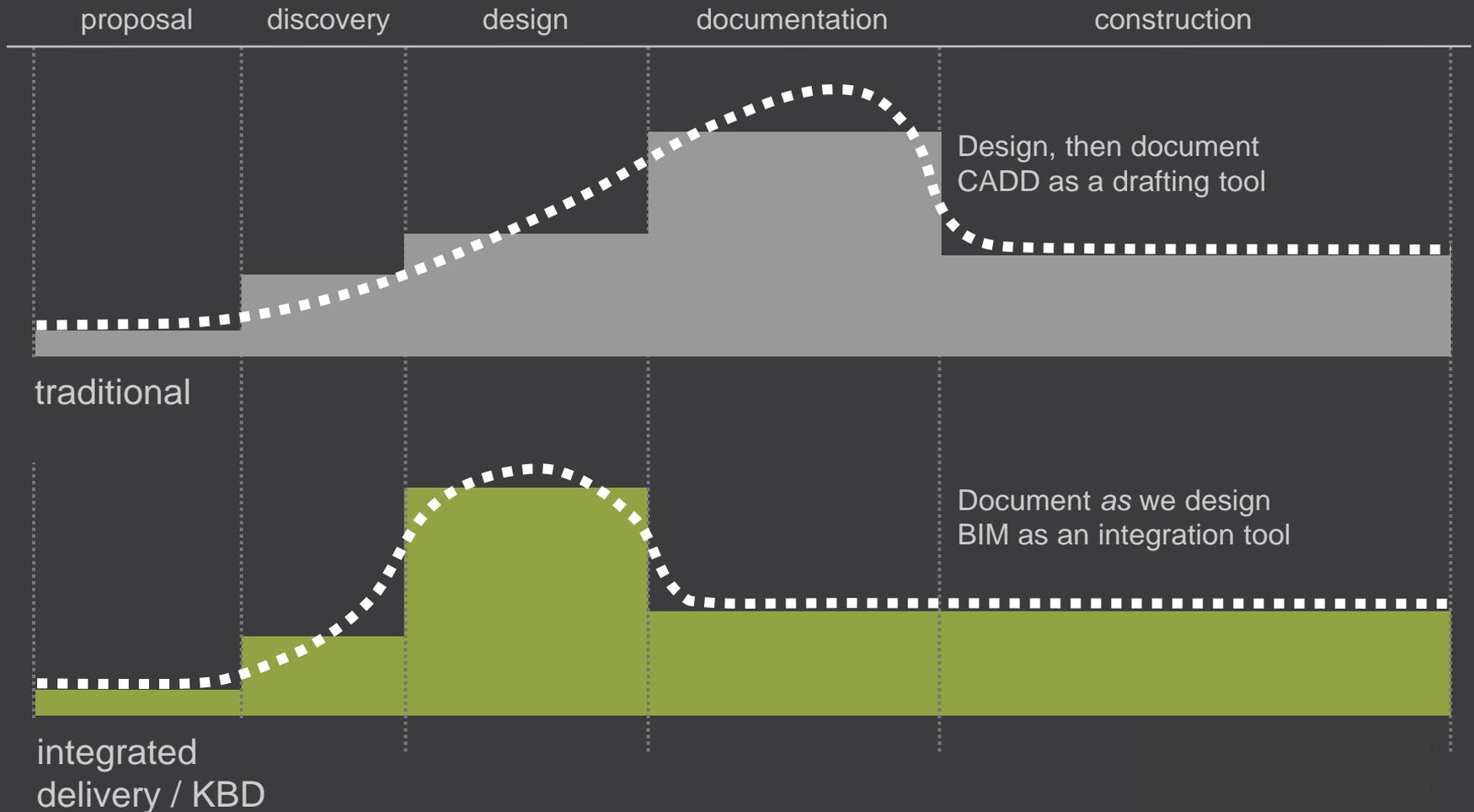


- 1 Toyota considers a much broader range of possible designs from the outset
- 2 Concepts move forward by evaluating against risk. Teams resolve conflicts by utilizing customer satisfaction criteria and detailed manufacturing checklists
- 3 Design teams combine pieces of different concepts and converge upon the final solution
- 4 The final concept is frozen much later in the process, but emerges almost risk-free and requires few design changes

Source: Kennedy, Michael, *Product Development for the Lean Enterprise* (2003).

The Design Process

Philosophy



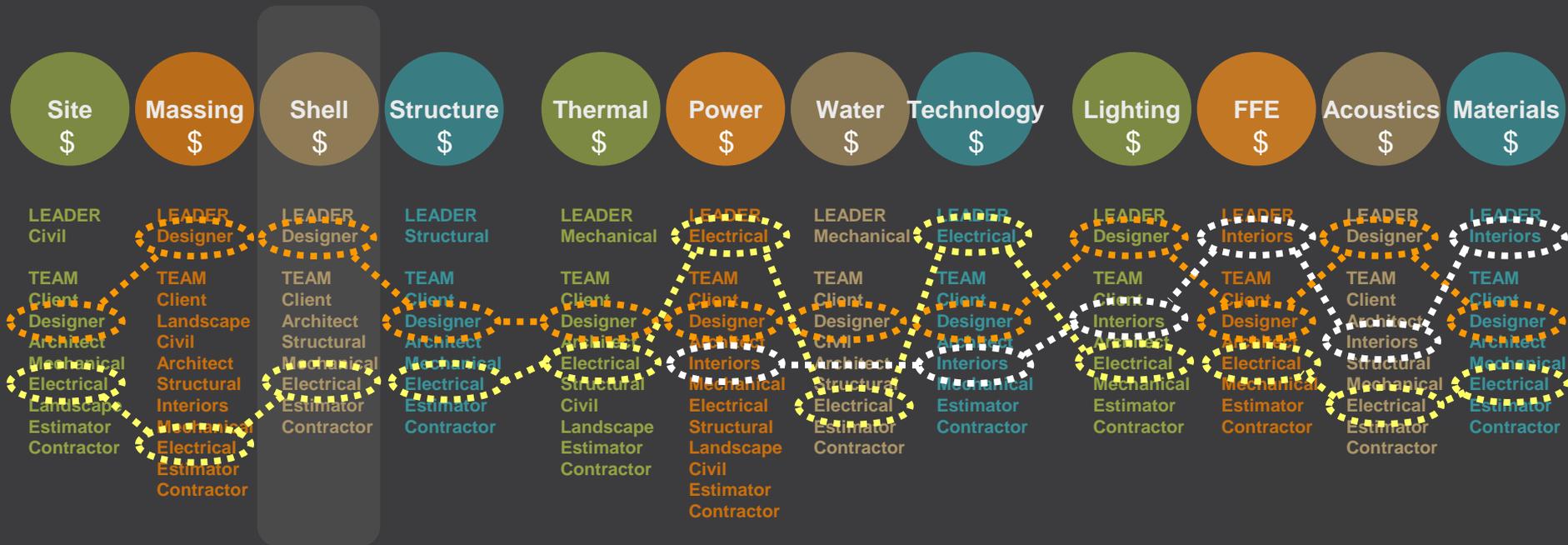
Project Team Organization

Component Teams

Project Leadership Team = Client + HGA + Builder

Integration -- across disciplines + across systems

Target Value Costing (Systems Costing Strategy)



Set-based Design

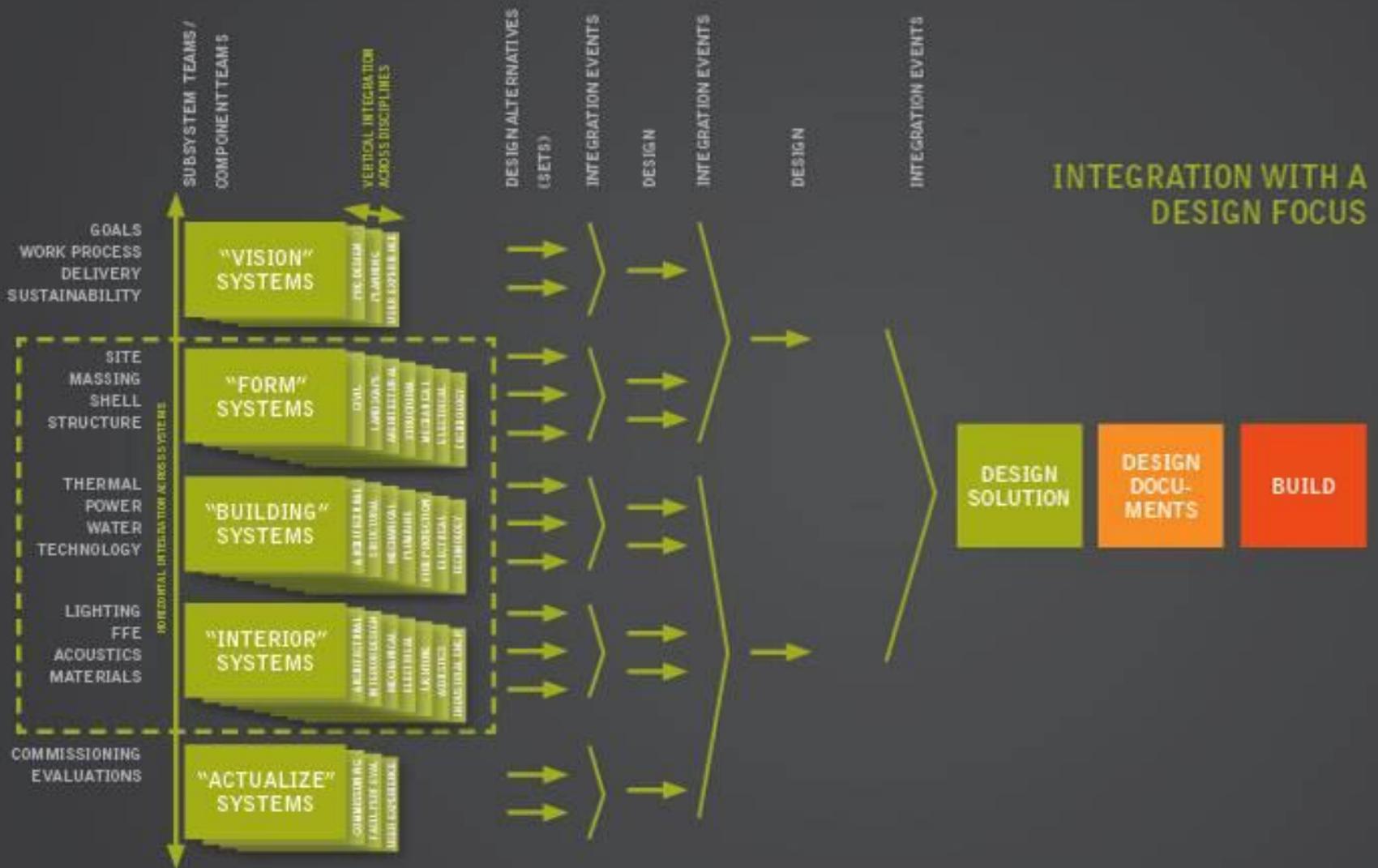
Set Log

- Tool to manage, analyze, and compare individual options

Schemes			Ratings																				
ID	Massing	Description	Current Position (1, 2, 3, ...)	Integration with Campus Master Plan				Sustainability				Collaborative Teaching Environment				Cost				Low Maintenance		Current Ratings	
				Signature Building for Campus	Provide Campus open space	Reconfigure Campus Circulation/Platform	Reconfigure Color material palette of Campus	Net Zero, Goal of LEED Platinum	One Step to Environmental	Energy Savings	Energy Self-Generation	Human Comfort and Control	Science on Display Building as Teaching Tool	Learning, labs and Offices	Maximize Interaction and Collaboration	Flexibly, movable Classroom	Below Budget	Fast Track Schedule Savings	Operational Cost Savings	Program Efficiency	Furniture		Landscape
1		2 separate buildings	8		0	0	n/a	-1	0	-1	0	-1	0	0	-1	n/a	-1	0	0	0	n/a	n/a	2
2		3 story atrium <u>integrated</u> , lecture halls on second floor	6		-1	1	n/a	0	1	0	0	-1	-1	0	n/a	-1	1	-1	-1	n/a	n/a	3	
3		3 story atrium <u>embedded</u> , lecture halls on second floor	7		-1	1	n/a	0	1	0	0	-1	-1	0	n/a	-1	0	-1	-1	n/a	n/a	4	
4		3 story atrium, <u>separated</u> lecture halls	7		-1	1	n/a	0	1	-1	0	-1	-1	0	n/a	-1	1	-1	-1	n/a	n/a	4	
5		3 story open courtyard w/ roof, <u>integrated</u> lect. halls on 2nd floor	4		-1	1	n/a	0	1	0	0	-1	-1	0	n/a	0	1	0	-1	n/a	n/a	1	
6		3 story open courtyard w/ roof, <u>embedded</u> lect. halls on 2nd floor	5		-1	1	n/a	0	1	0	0	-1	-1	-1	n/a	0	1	0	-1	n/a	n/a	2	
7		3 story open courtyard w/ roof, <u>separated</u> lecture halls	4		-1	1	n/a	0	1	0	0	-1	-1	0	n/a	0	1	0	-1	n/a	n/a	1	
8		3 story L-shape, <u>integrated</u> lecture halls on second floor	3		1	0	1	n/a	-1	1	-1	0	-1	0	0	0	1	0	0	0	n/a	n/a	1
9		3 story L-shape, <u>separated</u> lecture halls	3		1	0	1	n/a	-1	1	-1	0	-1	0	0	0	1	0	0	0	n/a	n/a	1
10		3 story hybrid, lecture halls on 1st floor as base	3		0	0	0	n/a	1	0	1	-1	0	0	0	-1	0	0	1	0	n/a	n/a	1
11		single loaded types with racetrack	2		-1	0	0	n/a	1	0	1	-1	1	1	0	0	0	-1	1	0	n/a	n/a	2
12		double loaded segment with single-loaded wings branching out	1		1	1	1	n/a	1	0	1	1	0	1	1	1	0	0	1	0	n/a	n/a	10

Project Team Organization

Integration of Component Teams



IN CLOSING

- Creative disruption is changing the design industry
Biggest threats are from outside our industry.
- Trends are shaping the design industry
Commoditization, Delivery, Scale, Demographics, Technology
- Align Skill and Passion with the Marketplace
Focus on High Value Services
- Close the Gap between Education and Practice
Focus on skills that differentiate design practices
- Learn new ways to lead Integrated Teams
Study successful industries