

*Making Sense of Financial Data
to Inform Management Decisions*

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ASTC Conference 2007
Los Angeles, California
October 13, 2007

*Data-Based Analysis:
Evaluating Performance Using
Financial Indicators*

*With a focus on using the ASTC Sourcebook of
Statistics as the Data Source*

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ASTC Conference 2007
Los Angeles, California
October 13, 2007

Analysis Applications

1. Plan new museums and expansions
 - Test your assumptions and forecasts and if “outside the box” justify why they are valid
2. Analyze how existing museums are performing
 - Where are you excelling? under performing? on par? and why?
 - Identify top performers and research them
3. Proof of need and / or success to Board, management and potential funders
4. Analyze Industry Trends
 - To track if your institution is experiencing similar trends
 - To help in future planning

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Presentation Topics

- Data Sources
- Choosing Comparables
- Key Data and Indicators
- Using and Customizing the ASTC Sourcebook of Statistics and Analysis CD-Rom
- Findings from a Customized Network and Survey

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Process

1. Select Topic Areas
2. Select Data to Collect –What Data is Needed to Calculate Indicators and Ratios
3. Choose Your Comparables and Industry Sector
4. Collect and Enter Data
5. Calculate Ratios
6. Analyze Data

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Process

7. Develop Preliminary Findings
8. Conduct Follow-up Research on Anomalies
9. Finalize Findings
10. Present Findings to Staff and Management
11. Adjust Goals and Strategies Based on Findings

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Selected Topic Areas

- Attendance
- Finance – Revenue and Expenses
- Staffing
- Facility and Components
- Membership
- Ancillary Products – store, function rentals, cafe
- Program Offerings

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Key Data
Key Indicators

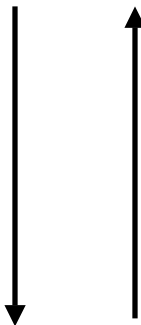
Data Sources

- Industry Directories and Surveys
(ASTC Sourcebook and Other Surveys, ACM, AAM, Museum Store Association, etc.)
- Annual Reports, Financial Statements
- IRS 990 Forms (understand anomalies)
- Established Networks of Museums
- Create Your Own Museum Network and Survey

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Macro-Micro Loop

Macro (Top Down)



Micro (Bottom Up)

ASTC
Sourcebook
and Other
Industry
Surveys

Financial
Statements
and 990s

Customized
Surveys and
Departmental
P/L's

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Facility and Attendance

Facility and Attendance Data

- Facility SF
- Interior and Exterior SF
- Components: Theaters, Classrooms, Labs
- Industry Attendance Trends
- Attendance by Category: Individuals, Members, School, Non-School Groups

Attendance Ratios

- Admissions Revenue/Gate Attendance (ATP)
- On-Site Attendance to Population Ratios
MSA/CBSA and DMA and Tourist
- School Attendance to Population
MSA/CBSA and DMA
- School Attendance % of Gate Attendance
- Gate Attendance to Interior Exhibit SF
- % Buying Solo Tickets versus Combo Tickets

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Facility/Attendance – Sample Format

	Total SF	Exhibit SF	On-Site Attd	Admission Attd	Popul/Attd Ratio
Museum 1					
Museum 2					
Museum 3					
Museum 4					
Mean					
Median					
Maximum					
Minimum					
You					

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Membership

Membership Ratios

- Memberships to Gate Attendance
- Memberships to On-Site Attendance
- Membership Renewal Rate
- Free Membership % of Gate Attendance
- Average Revenue per Membership

Revenue

Revenue Indicators and Ratios

- Admission % of Total Revenue
- % Earned / % Support / % Endowment
- Public vs. Private Support
- Public Funds per On-site Visitor
- Earned Revenue per Visitor

Revenue Ratios and Indicators

- Average Ticket Price (ATP)
(Admission \$ per Gate Attendance)
- Admission and Membership Revenue per Gate Attendance
- Store per Capita
- Café per Capita

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Expenses

Expense Ratios

- Expenses per Total SF
- Expenses per On-Site Visitor
(on and off-site)
- Payroll and Benefits as % of Total Expenses
- Utility Costs per SF
- Maintenance Costs per SF

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Expense Ratios

- Advertising Costs per Visitor
- Advertising % Total Expenses
- Advertising Dollars to Admissions Revenue
(or earned revenue) Ratio
- Fundraising % of Total Expenses
- Fundraising Dollars to Support Revenue
Ratio

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Expense Ratios – Sample Format

	Expense/ Visitor	Expense/ Bldg SF	Staff Exps % of Total	Ad Costs/ Visitor	Staff Costs/Visitor
Museum 1					
Museum 2					
Museum 3					
Museum 4					
Mean					
Median					
Maximum					
Minimum					
You					

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Staffing

Staffing Ratios

- FTE's to On-Site Attendance
- Earned Revenue per FTE
- Payroll Costs per Visitor

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Choosing Comparables

You are unique!

There is no other organization
exactly like you, so how do you
choose comparables?

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Choosing Comparables

- Similar Facility and Exhibit Square Footage
- Similar Components (GS theater, planetarium, outdoor park)
- Similar Learning/Program Spaces
- Similar Mission or Type (science vs. art)
- Similar Style (hands-on vs. collections based)
- Similar Community Type or Resident and / or Tourist Population
- Similar Budget Size and Funding Sources (i.e. large endowment or not)

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Comparison by Industry or Sector

- Within Sectors (Science/Technology Museums Only)
- Within the Museum Industry: Sector to Sector
(Science Centers vs. Children's Museums vs. Natural History)
- Outside the Industry (For-profit leisure attractions)
- Other Informal Learning Environments
- Smaller, Select Group of Comparables
(5-10 Museums)
- Sub-Groups (Store Managers, Function Rental Managers)

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Beware of anomalies—the yes, buts...

- Attendance is extremely high, but admission is free
- Attendance is extremely high in a small community because their city is a major tourist destination
- Earned revenue is extremely high, they have four ticketed venues
- Expenses are low, but they receive utilities and ground maintenance as in-kind from their city

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Levels of Comparison

Using the ASTC Database as an Example
You are a medium-sized U.S. science center
with a Giant Screen theater.

- All Respondents
 - Science Centers Only
 - Science Centers with GS Theaters
 - US Science Centers
 - » US Science Centers with GS Theaters
 - ❖ Those with Similar Components and Characteristics

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Analyzing the Data

- Calculate Key Indicators
 - Highlight and/or exclude anomalies from the averages but use as benchmarks if appropriate
 - Research anomalies as needed
 - Research potential best practices (high revenue or low cost to benefit)
- Identify Areas Where You Are Deviating Significantly from the Comparables
 - Conduct research in areas where you might be over/under performing
- Institutions in Development: Develop Macro and Micro Proformas to Test Against Peers
 - Where are your projections out of line – research and justify

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Customizing the ASTC Data

- Obtain the CD-Rom of the ASTC Sourcebook of Statistics and Analysis
- Identify Museums and Enter Names
(must have the hardcopy of the Sourcebook)
- Customize Answers so That They are Sortable in a Database
 - Convert number or letter answers to more useful data
- Add Population Data

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Customizing the ASTC Data

- Create Ratios and Calculations and Add to the Right of the ASTC Excel data
- Add Mean, Median, Maximum and Minimum
- Check Accuracy of Data Using Conditional Formatting and Double Check Columns
- Create Subsets of the Master Data
- Create Tables and Charts

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Process

1. Select Topic Areas
2. Select Data to Collect and Ratios
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Process (continued)

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2006 ASTC Sourcebook of Statistics and Analysis

*Science Center Respondents Only
and Comparison to Museum X*

2006 Survey Respondents

139 Respondents including:

- 114 Science Centers
- 15 Natural History Museums
- 9 General Museums
- 1 Space Center

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Geography

139 Respondents from:

- 99 United States
- 24 Non-US
- 10 Canada
- 4 Mexico
- 2 Australia

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Profile of Museum X

- Approximately 200,000 SF
- Exhibit Halls approximately 50,000 SF
- Attendance between 250,000 and 275,000
- In a highly competitive market
- Has a Giant Screen theater
- Combination tickets only

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Levels of Comparison with ASTC Data

- US Science Centers
- US Science Centers with Giant Screen Theaters
- All Science Centers
- Non-US Science Centers

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Attendance Ratios

Generally:

- The smaller the population base the higher the ratio
 - Some science centers with Imax theaters have achieved ratios of over 100% of their population
- The larger the population base the smaller the ratio

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Attendance / CBSA Population Ratio

	US SC		US with GS Theater		Museum X	
N=	75	71	34	31		
Mean	1.86 M	24%	2.48 M	33%	1.89 M	22%
Median	1.04 M	19%	1.72 M	23%	1.89 M	22%
Maximum	13 M	138%	13 M	138%		
Minimum	163 K	0%	199 K	9%		

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School Attendance / CBSA Population

	All SC	US	US with GS Theater	Museum X
N=	107	66	33	
Mean	5%	5%	6%	3%
Median	4%	4%	4%	3%
Maximum	28%	28%	28%	
Minimum	.06%	.06%	2%	

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School % of Gate Attendance

	All SC	Non- US	US	US with GS Theater	Museum X
N=	107	29	79	35	
Mean	30%	34%	29%	24%	27%
Median	27%	33%	26%	22%	27%
Maximum	84%	84%	84%	53%	
Minimum	7%	8%	7%	10%	

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Gate Attendance / Exhibit SF

	All SC	Non-US	US	US with GS Theater	Museum X
N=	107	28	79	34	
Mean	5.69	6.97	5.24	6.83	4.55
Median	4.79	5.24	4.28	5.41	4.55
Maximum	25.17	24.22	25.17	25.17	
Minimum	0.53	0.66	0.53	.96	

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Memberships % of On-Site Attendance

	All SC	Non-US	US	US with GS Theater	Museum X
N=	113	28	86	35	
Mean	1.8%	1.3%	2.0%	1.7%	2.2%
Median	1.7%	0.8%	1.9%	1.7%	2.2%
Maximum	12%	11.8%	6%	4%	
Minimum	.02%	.02%	.08%	.08%	

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Memberships Renewal Rate

	All SC	Non-US	US	US with GS Theater	Museum X
N=	81	13	68	32	
Mean	55.21	44.10	57.34	56.09	29.80
Median	58.00	44.00	58.50	57.46	29.80
Maximum	98.00	90.00	98.00	80.00	
Minimum	8.30	8.30	10.00	29.80	

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Adult Ticket Prices

	All SC	Non-US	US	US with GS Theater	Museum X
N=	124	36	88	37	
Mean ATP	\$4.96	\$4.20	\$5.26	\$6.56	\$5.74
Mean	\$7.85	\$6.80	\$8.27	\$9.94	\$14.95
Median	\$7.00	\$6.40	\$8.00	\$9.50	\$14.95
Maximum	\$20.50	\$20.50	\$18.00	\$16.00	
Minimum	\$.05	\$.05	\$3.00	\$3.00	

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Mean % Earned / % Support

	All SC	Non-US	US	US with GS Theater	Museum X
N=	183-185	33-34	126-128	39	
Earned	44%	34%	42%	55%	60%
Private	23%	15%	22%	18%	19%
Public	28%	50%	33%	23%	20%
Endowment	4%	2%	4%	4%	1%

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Earned Revenue / On-Site Visitor

	All SC	Non-US	US	US with GS Theater	Museum X
N=	121	33	88	36	
Mean	\$9.40	\$7.57	\$10.09	\$11.17	\$12.41
Median	\$8.44	\$6.07	\$8.94	\$11.16	\$12.41
Maximum	\$50.00	\$23.12	\$50.00	\$23.03	
Minimum	\$ 0.07	\$ 0.07	\$ 0.16	\$2.71	

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Admissions % of Total Revenue

	All SC	Non-US	US	US with GS Theater	Museum X
N=	103	28	75	34	
Mean	21%	19%	22%	30%	24%
Median	19%	15%	20%	29%	24%
Maximum	83%	61%	83%	83%	
Minimum	1%	1%	1%	1%	

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Public Funds / On-Site Visitor

	All SC	Non-US	US	US with GS Theater	Museum X
N=	185	34	89	36	
Mean	\$9.65	\$16.27	\$10.71	\$9.13	\$4.11
Median	\$3.44	\$10.84	\$4.09	\$3.04	\$4.11
Maximum	\$171	\$170	\$169	\$169	
Minimum	\$0	\$0	\$0	\$0	

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Expenses per Total SF

	All SC	Non-US	US	US with GS Theater	Museum X
N=	120	28	92	37	
Mean	\$54	\$64	\$50	\$48	\$25
Median	\$44	\$53	\$39	\$46	\$25
Maximum	\$278	\$278	\$229	\$139	
Minimum	\$2	\$2	\$2	\$8	

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Expenses per On-Site Visitor

	All SC	Non-US	US	US with GS Theater	Museum X
N=	120	33	87	34	
Mean	\$34	\$26	\$36	\$25	\$20
Median	\$19	\$20	\$18	\$18	\$20
Maximum	\$792	\$185	\$795	\$190	
Minimum	\$2	\$2	\$3	\$6	

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Personnel Expenses % of Total Expenses

	All SC	Non-US	US	US with GS Theater	Museum X
N=	123	33	90	36	
Mean	52%	48%	54%	50%	52%
Median	53%	48%	54%	50%	52%
Maximum	87%	71%	87%	82%	
Minimum	2%	23%	2%	35%	

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Ad \$ % of Total Expenses

	All SC	Non-US	US	US with GS Theater	Museum X
N=	115	30	85	37	
Mean	4.4%	5.2%	4.2%	5.8%	4.4%
Median	3.8%	3.8%	3.7%	4.9%	4.4%
Maximum	27%	27%	25%	25%	
Minimum	.05%	.50%	.05%	.60%	

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Advertising / On-Site Visitor

	All SC	Non-US	US	US with GS Theater	Museum X
N=	113	30	83	35	
Mean	\$1.52	\$1.01	\$1.71	\$1.18	\$0.87
Median	\$0.72	\$.77	\$0.70	\$1.05	\$0.87
Maximum	\$65.00	\$4.00	\$65.00	\$5.94	
Minimum	\$0.02	\$0.03	\$0.02	\$0.07	

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Earned Revenue / Ad \$

	All SC	Non-US	US	US with GS Theater	Museum X
N=	116	30	86	37	
Mean	37.92	10.01	47.66	15.05	14.34
Median	11.65	8.22	13.37	11.85	14.34
Maximum	1804	29.30	1804	102	
Minimum	0.77	2.39	0.77	1.42	

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Fund Raise \$ as % of Total Expenses

	All SC	Non-US	US	US with GS Theater	Museum X
N=	97	15	82	34	
Mean	6%	2%	7%	6%	4%
Median	5%	1%	5%	5%	4%
Maximum	41%	10%	41%	14%	
Minimum	0.1%	0.1%	0.3%	0.4%	

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Support Revenue / Fund Raise \$

	All SC	Non-US	US	US with GS Theater	Museum X
N=	97	15	82	34	
Mean	41	138	24	9	10
Median	11	60	9	7	10
Maximum	705	575	705	22	
Minimum	1.28	5.00	1.28	1.95	

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On-Site Visitors / FTE

	All SC	Non-US	US	US with GS Theater	Museum X
N=	116	28	88	33	
Mean	3782	3482	3878	4568	4182
Median	3615	3722	3538	4062	4182
Maximum	13,268	6785	13,268	9200	
Minimum	57	872	57	302	

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Staff Expenses / On-Site Visitor

	All SC	Non-US	US	US with GS Theater	Museum X
N=	121	34	87	35	
Mean	\$17.53	\$12.33	\$19.57	\$14.01	\$10.29
Median	\$ 9.71	\$8.33	\$ 9.93	\$8.42	\$10.29
Maximum	\$385	\$87	\$385	\$150	
Minimum	\$.41	\$ 0.86	\$.41	\$2.79	

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*Preliminary Findings
for Museum X
Based on
2006 ASTC Sourcebook
Comparative Data*

Key Preliminary Findings

- Membership attendance is high as % of attendance but membership renewal rate extremely low
- Expenses per building SF extremely low
(research if receive in-kind in utilities, maintenance or grounds)
- Average Ticket Price very low for high combination ticket

Attendance - Preliminary Findings

- Attendance / population ratio in ballpark, but should be doing a little better with a GS Theater
- Gate attendance / exhibit SF a little low
 - But attendance / population ratio in line – was building oversized for its community size
- School attendance ratio to population a little low
- School % of gate attendance higher than average
- Staffing per on-site visitor – on par with GS theaters and higher than US theaters

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Membership - Preliminary Findings

- Memberships as % of on-site attendance above the mean and median
 - Are they successful or are they not getting as many non-members?
- Membership renewal rate a big issue – what's going on?

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Revenue - Preliminary Findings

- Higher than average earned revenue per on-site visitor
 - Museum rents part of its space so unusual earned income
 - Parking income?
- Admission as % of total revenue a little low
 - Is this because they are successful at other earned income?
Research needed
- ATP is very low yet ticket prices are high (combo only option)
 - Are school groups affecting the ATP? Research needed

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Expenses - Preliminary Findings

- Expenses per building SF extremely low
 - Research if receive in-kind in utilities, maintenance or grounds
 - Upkeep and maintenance definitely an issue
- Expenses per visitor a little low
- Staffing on par as % of total expenses
 - But total expenses very low, so maybe staffing low
- Staffing expenses per on-site visitor a little low

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Expenses - Preliminary Findings

- Ad \$ as % of total expenses low, especially for those with GS theaters
- Ad \$ per on-site visitor are low, especially for their market
- Return on ad \$ / per earned dollar raised is on par with average and above median for those with GS theaters
- Return on fund raising \$ / per support dollar raised is on par with those with GS theaters, but in general less than for museums without GS theaters

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Additional Findings for Museum X Based on Small Custom Network of Museums

Sample Findings

- Function Rentals on Par – Can they be improved?
- Food Revenue Successful
- Membership Revenue Low – Why? Under priced?
- More Than Average Outdoor Area / Underutilized Grounds - Opportunity
- Store Under-Performing – Was Redesigned to Maximize Revenue
- Very High Facility Costs

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Sample Findings

- Program expenses and ratio to total costs low (skewed by low expenses per SF costs?)
- No public funding versus 27% of budget for comparables – a case for local support
- Annual giving very successful but may be a strain to achieve every year
- Achieving high dollars in private and corporate support funds at low cost

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White Oak Mailing List

If you would like to be on the White Oak mailing list for our occasional *Leaflet* and *Forum* please email us at:

woa@whiteoakassoc.com

Put “add to mailing list” in the subject
and give us your contact information:

Name and Title
Museum or Firm Name
Mailing Address
Email address

Thank you!



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Data-Based Analysis: Evaluating Performance Using Financial Indicators

*With a focus on using the ASTC Sourcebook of
Statistics as the Data Source*

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Vice President

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