

*Data-Based Analysis:
Evaluating Performance Using
Key Quantitative Indicators*

*Using the ASTC Sourcebook of Statistics & Analysis
and its CD-ROM as the Data Source*

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Learning to Lead

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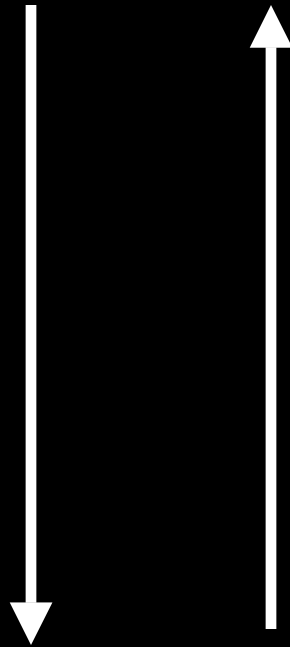
Analysis Applications

- Plan new museums and expansions
- Existing museums – how am I doing?
- Proof of need and / or success to Board, management, media and potential funders
- Analyze Industry Trends – prepare for the future



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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The ASTC Database

Hard copy and CD-ROM



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Topics

- Overview of Respondents
- Using and Customizing the ASTC Sourcebook of Statistics and Analysis CD-Rom
- Choosing Comparables
- Key Quantitative Data and Indicators



2007 ASTC Survey Respondents

179 Respondents:

- 107 Science Centers (60%)
- 23 Children's Museums
- 20 Other
- 14 Natural History Museums
- 7 General Museums
- 3 Specialized
- 3 Planetarium
- 2 Aquariums



2007 ASTC Survey Respondents

179 Respondents - Geography:

- 138 United States (77%)
- 41 Non-US
 - 9 Canada
 - 7 Mexico
- 43 with Giant Screen Theaters



ASTC Survey Base Data

- Facility Data
 - Sq. Footage and Components, Expansion Plans
- Attendance
 - On-site/Off-site Overall and School Groups
- Memberships and Renewal Rates
- Revenue and Expenses
 - Earned, public, private, endowment admissions revenue
 - Total, payroll, advertising, fundraising
- Bonus Questions
 - Tx system, Acctg & Fund Raising Software
- Programs Offered



Caveat

It is only one year of data
and does not explain any anomalies
that might have occurred that year.

e.g.

Blockbuster traveling exhibit or GS film
Exhibits closed for renovation
etc. etc.



The CD-Rom Data

Has much more data than the
hardcopy of the survey.



Customizing the Data



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Customizing the ASTC Data

- Obtain the CD-Rom of the *ASTC Sourcebook of Statistics and Analysis*
- Make a copy of it and save the original
- Customize answers so that they are sortable in a database
 - Convert number categories or letter answers to more useful data
- Optional: Identify museums and enter names (must have the hardcopy of the Sourcebook - use SF, attendance, and/or operating data to verify)
- Add #, Mean, Median, Maximum and Minimum (Zero out cells with no data or erroneous data)



Customizing the ASTC Data

- Check Accuracy of Data Using Conditional Formatting and Double Check Columns (e.g. on-site + off-site attendance = total attd)
- Create Ratios and Calculations and Add to the Right of the ASTC Excel data
- Add Population Data
- Create Subsets of the Master Data
- Create Tables and Charts



Choosing Comparables



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Choosing Comparables

You are unique!

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



Levels of Comparison

- All Respondents
 - Science Centers Only
 - Science Centers with GS Theaters
 - US Science Centers with GS Theaters
 - ❖ Those with Similar Components and Characteristics
(subsets of 20-30 and/or 5-8)
- By Sector
 - Your Sector – e.g. Science Centers Only
 - Science Centers to Children's Museum



Choosing Comparables

Similar:

- Facility and Exhibit Square Footage
- Components
(GS theater, planetarium, outdoor park)
- Program Spaces/Program Offerings
- Mission or Type (science vs. art)
- Style (hands-on vs. collections based)
- Metro Population Size and/or Tourist Population
- Budget and Funding Balance (i.e. endowment)
- Location – urban vs rural



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 grounds maintenance as in-kind from their city



Process



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Process

1. Select Topic Areas
2. Select Data and Ratios to Collect
3. Choose Your Comparables
4. Collect and Enter Data
5. Calculate Ratios
6. Analyze Data



Process (continued)

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



Analyzing the Data

- **Choose and 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
- **Budgeting for the Future: Test Your Data Against Peers**
 - Where are your projections out of line – research and justify



*Comparison of Sample Science
Center to the ASTC Data
for Science Centers only*



Profile of Sci Ctr X

- Facility size 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 Tx Only



Expenses per Total SF

ASTC 2005 Survey

	All SC	Non-US	US	US with GS Theater	Sci Ctr X
N=	<u>120</u>	<u>28</u>	<u>92</u>	<u>37</u>	
Mean	\$54	\$64	\$50	\$48	\$25
Median	\$44	\$53	\$39	\$46	\$25

Why are costs so low? Rent out part of space. Budget cuts and not maintaining facility at level needed.



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Expenses per On-Site Visitor ASTC

2005 Survey

	All SC	Non-US	US	US with GS Theater	Sci Ctr X
N=	<u>120</u>	<u>33</u>	<u>87</u>	<u>34</u>	
Mean	\$34	\$26	\$36	\$25	\$20
Median	\$19	\$20	\$18	\$18	\$20

Expenses per visitor are low.



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Personnel Expenses % of Total Expenses

ASTC 2005 Survey

	All SC	Non-US	US	US with GS Theater	Sci Ctr X
N=	<u>123</u>	<u>33</u>	<u>90</u>	<u>36</u>	
Mean	52%	48%	54%	50%	52%
Median	53%	48%	54%	50%	52%



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Adult Ticket Prices

ASTC 2005 Survey

	All SC	Non-US	US	US with GS Theater	Sci Ctr X
N=	<u>124</u>	<u>36</u>	<u>88</u>	<u>37</u>	
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

Why is the ATP so low but the tx price the highest?



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Admissions % of Total Revenue

ASTC 2005 Survey

	All SC	Non- US	US	US with GS Theater	Sci Ctr X
N=	<u>103</u>	<u>28</u>	<u>75</u>	<u>34</u>	
Mean	21%	19%	22%	30%	24%
Median	19%	15%	20%	29%	24%

Low ATP is reflected in lower admissions % of revenue.



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Earned Revenue / On-Site Visitor

ASTC 2005 Survey

	All SC	Non-US	US	US with GS Theater	Sci Ctr X
N=	<u>121</u>	<u>33</u>	<u>88</u>	<u>36</u>	
Mean	\$9.40	\$7.57	\$10.09	\$11.17	\$12.41
Median	\$8.44	\$6.07	\$8.94	\$11.16	\$12.41

Earned revenue is higher than avg so one would assume non-admissions earned revenue must be strong.



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Attendance / CBSA Population Ratio

ASTC 2005 Survey

	US SC		US with GS Theater		Sci Ctr X	
N=	<u>75</u>	<u>71</u>	<u>34</u>	<u>31</u>		
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%

(Note: Generally, the larger the population, the lower the ratio.)



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Gate Attendance / Exhibit SF

ASTC 2005 Survey

	All SC	Non-US	US	US with GS Theater	Sci Ctr X
N=	<u>107</u>	<u>28</u>	<u>79</u>	<u>34</u>	
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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School Attendance / CBSA Population

ASTC 2005 Survey

	All SC	US	US with GS Theater	Sci Ctr X
N=	<u>107</u>	<u>66</u>	<u>33</u>	
Mean	5%	5%	6%	3%
Median	4%	4%	4%	3%

Why is their school to population ratio so low?



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School % of Gate Attendance

ASTC 2005 Survey

	All SC	Non- US	US	US with GS Theater	Sci Ctr X
N=	<u>107</u>	<u>29</u>	<u>79</u>	<u>35</u>	
Mean	30%	34%	29%	24%	27%
Median	27%	33%	26%	22%	27%

Yet they have higher than avg school attendance as a % of gate attendance compared to SC's with GS theaters. Are they not getting enough general visitors?



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Ad \$ % of Total Expenses

ASTC 2005 Survey

	All SC	Non-US	US	US with GS Theater	Sci Ctr X
N=	<u>115</u>	<u>30</u>	<u>85</u>	<u>37</u>	
Mean	4.4%	5.2%	4.2%	5.8%	4.4%
Median	3.8%	3.8%	3.7%	4.9%	4.4%

In a very competitive market, why aren't they spending more on advertising?



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Advertising / On-Site Visitor

ASTC 2005 Survey

	All SC	Non-US	US	US with GS Theater	Sci Ctr X
N=	<u>113</u>	<u>30</u>	<u>83</u>	<u>35</u>	
Mean	\$1.52	\$1.01	\$1.71	\$1.18	\$0.87
Median	\$0.72	\$.77	\$0.70	\$1.05	\$0.87



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On-Site Visitors / FTE

ASTC 2005 Survey

	All SC	Non-US	US	US with GS Theater	Sci Ctr X
N=	<u>116</u>	<u>28</u>	<u>88</u>	<u>33</u>	
Mean	3782	3482	3878	4568	4182
Median	3615	3722	3538	4062	4182

Staffing per on-site visitor is in line.



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Memberships % of On-Site Attendance

ASTC 2005 Survey

	All SC	Non-US	US	US with GS Theater	Sci Ctr X
N=	<u>113</u>	<u>28</u>	<u>86</u>	<u>35</u>	
Mean	1.8%	1.3%	2.0%	1.7%	2.2%
Median	1.7%	0.8%	1.9%	1.7%	2.2%

Higher than avg percentage of memberships...



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Memberships Renewal Rate %

ASTC 2005 Survey

	All SC	Non-US	US	US with GS Theater	Sci Ctr X
N=	<u>81</u>	<u>13</u>	<u>68</u>	<u>32</u>	
Mean	55	44	57	56	29
Median	58	44	58	57	29

...but very low renewal rate.



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% Earned / % Support

ASTC 2005 Survey

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

Lower than avg public support, used as a case to lobby for more support.



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Public Funds / On-Site Visitor

ASTC 2005 Survey

	All SC	Non-US	US	US with GS Theater	Sci Ctr X
N=	<u>185</u>	<u>34</u>	<u>89</u>	<u>36</u>	
Mean	\$9.65	\$16.27	\$10.71	\$9.13	\$4.11
Median	\$3.44	\$10.84	\$4.09	\$3.04	\$4.11

Lower than avg public support, used as a case to lobby for more support.



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Key Data

Key Indicators

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

Not all available from ASTC data

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



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



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



Attendance Ratios

- Admissions Revenue/Gate Attendance (ATP)
- On-Site Attendance to Population Ratios
MSA/CBSA and DMA and Tourist
- School Attendance to Population
- School Attendance % of Gate Attendance
- Attendance by Category: Individuals,
Members, School, Non-School Groups
- Gate Attendance to Interior Exhibit SF
- % Buying Solo Tickets versus Combo Tickets



Membership Ratios

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



Staffing Ratios

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



Sample Templates

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					



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					



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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