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ceir

Center for Exhibition Industry Research

Chapter 1. Introduction and Methodology

1.1 ABOUT THE CEIR INDEX REPORT

The *CEIR Index Report* was developed to provide an objective measure of the annual performance of the exhibition industry. The *CEIR Index Report* measures year-over-year changes in four key metrics:

- Net Square Feet of Exhibit Space Sold

- Professional Attendance

- Number of Exhibiting Companies

- Total Event Gross Revenue

The results showing the performance in these four metrics were calculated from data provided from more than 600 events, which were divided into 14 industry sectors. The data were then aggregated by sector. The year-over-year changes were then translated into actual levels as well as an "index value," using a base value of 100 in the base year of 2014. The *2018 CEIR Index Report* displays and analyzes data from 2004 through 2017 and provides a forecast for 2018 to 2020.

1.2 ABOUT CEIR

The Center for Exhibition Industry Research (CEIR) of Dallas, Texas, is a nonprofit 501(c)(3) organization. CEIR's mission is to provide industry-leading research on the North American exhibitions and events industry globally which optimizes performance, increases engagement and addresses emerging customer needs. CEIR is a leading source of research, information and communications regarding exhibitions (see http://www.ceir.org).

Three pillars support the CEIR Mission:

- Independent: CEIR produces objective, scientific, peer-reviewed research.

- Comprehensive: CEIR research is designed to inform a broad range of exhibition industry constituents.

- Impactful: CEIR research helps exhibition industry professionals and businesses to grow.

CEIR reports are used in a number of ways:

- Onboard junior-level employees and new hires

- Supplement corporate and association board reports

- Educate up-and-coming industry leaders

- Understand and plan around industry trends

- Develop and validate business strategies

- Measure performance against sector benchmarks

- Identify new opportunities and justify business decisions

- Understand the competitive marketplace

- Obtain funding for expansion

- Understand customers – exhibitors, attendees, sponsors and partners – more deeply

- Share insights across the business community

1.3 GLOSSARY OF TERMS

Attendance: The number of professionals or "buyers" (attendees) attending an event. For business-to-business exhibitions, this number excludes exhibiting company personnel, friends and family, and other non-business attendees. An attendee who participates in multiple events throughout the year will be counted repeatedly. Attendees include international participants.

Business-to-Business Exhibitions: Exhibitions produced for the primary purpose of displaying products and services for use by businesses and governments. These events are industry-specific and are not open to the public.

Business-to-Consumer Exhibitions: These events are open to the public and display goods and services of interest to the consumer market.

Compound Annual Growth Rate (CAGR): CAGR is a smoothed annualized gain of an economic variable or investment over a given time period. It is calculated by taking the nth root of the total percentage growth rate, where n is the number of years in the period being considered.

Exhibition: An event with 3,000 or more net square feet of exhibit space and 10 or more exhibiting companies.

Exhibition Industry: All business-to-business exhibitions as defined previously, which include 14 sectors as shown on Page 3.

Exhibitors: Companies and other organizations occupying exhibit space at an exhibition, including exhibit space traded for in-kind services and other non-cash consideration. A company or organization that participates in multiple events throughout the year will be counted repeatedly.

Gross Domestic Product (GDP): GDP refers to the value of all goods and services produced within a country in a given period. There are three ways to measure GDP: the expenditure approach, the output approach and the income approach. The expenditure approach counts goods and services produced from the purchases of consumers (consumption expenditures), businesses (investment), governments (government consumption expenditures and investment) and foreigners (net exports). The output approach measures GDP from final goods and services produced by industries (agriculture, mining, manufacturing, etc.). The income approach counts goods and services produced from income received by workers, profits earned by businesses and taxes paid to governments.

Levels: Refers to actual numbers.

Net Square Feet (NSF): Exhibition space sold for revenue or in-kind services (does not include aisle space or meeting rooms).

Revenues: Gross exhibition revenues generated from all sources, including the sale of exhibit space, conference fees, advertising, sponsorships and other sources.

Real Revenues: Revenues adjusted for inflation; the adjustment factor is the Consumer Price Index for all urban households (CPI-U) as published by the U.S. Bureau of Labor Statistics.

Total CEIR Index for Each Sector: The geometric weighted average of the four CEIR Index component values – NSF, exhibitors, attendees and real revenues. The weights are equal for all four components.

Total CEIR Index of Each Metric for the Overall Exhibition Industry: The level of each metric, such as NSF, for the overall exhibition industry is calculated as a sum of the values of that metric for each of the 14 sectors, and the index of each metric is derived from its level.

Total CEIR Index for the Overall Exhibition Industry: Similar to Total Index for each sector, the Total Index for the overall exhibition industry is a geometric weighted average of the four index component values – NSF, exhibitors, attendees and real revenues. The weights are equal for all four components.

1.4 METHODOLOGY

The *CEIR Index Report* is designed to be representative of the entire universe of U.S. business-to-business exhibitions. As mentioned previously, exhibitions are defined as any event with at least 3,000 NSF of exhibit space and 10 or more exhibiting companies.

1.4.1 CENSUS – UNIVERSE OF EXHIBITIONS

The census provides the basis for the universe of the North American exhibition industry. The latest census, conducted during 2015, is for exhibitions that took place in 2014. It catalogued approximately 9,400 business-to-business exhibitions in the United States, comprising (in round numbers):

- NSF – 285 million

- Attendees – 32.4 million

- Exhibitors – 1.3 million

- Revenues – $9.3 billion

It is extremely difficult to obtain metric information for all business-to-business exhibitions in the United States. CEIR made a great effort in the 2015 Census to collect the universe of exhibitions in North America. The number of primary data sources has increased more than threefold. As a result, CEIR has obtained much better coverage of the industry and now can provide better data for each metric. Since it is more complete and accurate, the 2015 Census is incomparable with past censuses. Using the new census raw data, CEIR has recalibrated a complete set of historical data.

Based on the similarity of underlying macroeconomic factors (such as consumer expenditures or investment) and the size of grouping, the universe of approximately 9,400 business-to-business exhibitions was divided into 14 industry sectors. The number and distribution of exhibitions are broken out in the table below.

INDUSTRY SECTOR		# of Events	% of Total
BZ	Business Services	860	9.1%
CG	Consumer Goods and Retail Trade	430	4.6%
CS	Discretionary Consumer Goods and Services	406	4.3%
ED	Education	863	9.2%
FD	Food	377	4.0%
FN	Financial, Legal and Real Estate	696	7.4%
GV	Government	478	5.1%
HM	Building, Construction, Home and Repair	324	3.4%
ID	Industrial/Heavy Machinery and Finished Business Inputs	168	1.8%
IT	Communications and Information Technology	1,045	11.1%
MD	Medical and Health Care	1,992	21.1%
RM	Raw Materials and Science	864	9.2%
ST	Sporting Goods, Travel and Amusement	484	5.1%
TX	Transportation	435	4.6%
TOTAL EVENTS		**9,422**	**100.0%**

Source: CEIR Exhibition Industry Census 2015

Industries included in each sector are:

1. **BZ – Business Services**
    - Advertising/Marketing
    - Architecture
    - Audio-Visual
    - Death Care Services
    - Engineering
    - Human Resources
    - Plant Engineering and Operations
    - Printing
    - Security
    - Other Business Services

2. **CG – Consumer Goods and Retail Trade**
    - Apparel
    - Gifts
    - Hardware
    - Housewares
    - Jewelry
    - Laundry and Dry Cleaning
    - Leather Goods and Luggage
    - Lighting
    - Office Equipment and Supplies
    - Photography

3. **CS – Discretionary Consumer Goods and Services**
    - Art
    - Beauty and Personal Care
    - Religious
    - Rental and Leasing
    - Toys and Hobbies
    - Wedding
    - Other Consumer Services

4. **ED – Education**
    - Associations
    - Education
    - Libraries

5. **FD – Food**
    - Food and Beverage
    - Food Processing and Distribution
    - Restaurant and Food Service

6. **FN – Financial, Legal and Real Estate**
    - Accounting
    - Banking
    - Financial
    - Insurance
    - Legal
    - Real Estate

7. **GV – Government**
    - Fire and Fire Protection
    - Military
    - Police
    - Safety
    - Overall Government

8. **HM – Building, Construction, Home and Repair**
    - Building and Construction
    - Home Economics
    - Home Furnishings and Interior Design
    - Housing
    - Landscape and Garden Supplies
    - Stores and Store Fittings
    - Wood Workings

9. **ID – Industrial/Heavy Machinery and Finished Business Inputs**

- Air Conditioning, Heating and Refrigeration
- Manufacturing
- Metal Working and Coatings Technology
- Packaging
- Robotics
- Waste Management
- Welding

10. **IT – Communications and Information Technology**

- Communications
- Computers and Computer Applications
- Electrical and Electronics
- Publishing
- Radio, TV and Cable
- Telecommunications

11. **MD – Medical and Health Care**

- Dental
- Industrial
- Medical and Health Care
- Nursing
- Pharmaceuticals
- Veterinary

12. **RM – Raw Materials and Science**

- Agriculture and Farming
- Ceramics and Glass
- Chemical
- Energy
- Floriculture and Horticulture
- Forest Products
- Mining
- Ocean Science and Equipment
- Paint
- Paper
- Petroleum, Oil and Gas
- Plastics
- Pollution Control
- Science
- Textiles
- Water
- Wire

13. **ST – Sporting Goods, Travel and Amusement**

- Amusement
- Boats
- Recreation
- RV
- Sporting Goods
- Travel Industry

14. **TX – Transportation**

- Aerospace and Aviation
- Automotive and Trucking
- Physical Distribution
- Railroads
- Unmanned Vehicle Systems
- Other Transportation Services

1.4.2 COLLECTION OF SAMPLE DATA OUTSIDE THE CENSUS YEARS

Vault Consulting collects sample data on an ongoing basis. Vault Consulting was able to collect data for the majority of the events held in the past sixteen years. The data comprised the following six key pieces of information:

- Event Date
- Event Location (City, State)
- Total NSF of Exhibit Space
- Total Exhibiting Companies
- Total Professional Attendance
- Total Revenue

Completed surveys were returned to Vault Consulting, and each event was placed in a "sector" based on an extensive list of sub-categories that make up each top-level sector. The data then were entered into a database and reviewed for completeness, data quality and reasonableness. The data also were reviewed in the aggregate to ensure that each sector had a statistically sufficient number of samples. To ensure a sufficient amount of sample data, exhibition organizers are encouraged to participate in the sample submission (see http://www.ceir.org).

1.4.3 CONSTRUCTION OF SAMPLE DATA FOR EACH METRIC IN EACH SECTOR

Global Economic Consulting Associates, Inc. (GECA), an independent economic consulting firm, is responsible for the construction of the *CEIR Index Report*. The building blocks for the *CEIR Index Report* are the year-over-year percent change numbers in each of the four metrics for an individual event. To avoid sampling bias, only events that have data points in consecutive years can be included. More than 90 percent of the events surveyed were held on an annual basis. For events that were held biennially, GECA interpolated the data for the "in-between" year. For example, if an event reported NSF of 7,000 in 2015 and 9,000 in 2017, GECA estimated NSF of 8,000 for 2016. This enabled biennial events to be included in the *CEIR Index Report*. Any event held less often than biennially was not included.

To detect potential data reporting errors, GECA computed four analytical indicators – NSF per exhibitor, attendees per exhibitor, revenue per NSF and revenue per exhibitor. A follow-up inquiry was made if there was a dramatic change in any indicator.

Next, for each metric in each sector, GECA computed the sum of each metric across all sample events in each sector that have a "pair" of numbers (the same metric for the same event in two consecutive years) for each year and then calculated a percent change value. For revenue, GECA uses the Consumer Price Index for all urban households (CPI-U) to adjust for inflation and generate real revenue before computing the percent change of revenue metric.

CEIR reports both index values and metric levels such as attendees in thousands. The base year is set at the census year 2014. Thus, the index value for each metric in 2014=100. GECA uses percent changes of sample events to generate index values for 2000 to 2013 and 2015 to 2017. Similarly, GECA uses percent changes of sample events to generate metric levels for 2000 to 2013 and 2015 to 2017.

1.4.4 CONSTRUCTION OF TOTAL INDEX FOR EACH SECTOR

For each year, the four component index values – NSF, exhibitors, attendees and real revenues – are calculated independently from each other. A geometric weighted average is used to calculate the fifth CEIR Index value called "Total," which is intended to reflect the overall performance of each sector. There is no theoretically "correct" weight for each component – it all depends on the purpose for which the index is used. Since there are diverse interests among users, CEIR decided to apply an equal weight (0.25) for each metric. Using a geometric average reduces undue influence from a dramatic change in any particular metric.

1.4.5 CONSTRUCTION OF METRICS FOR THE OVERALL EXHIBITION INDUSTRY

Each metric, such as NSF, for the overall exhibition industry is calculated as a sum of the values of that metric for each of the 14 sectors. The index of each metric, where 2014=100, is calculated from its level, i.e., by dividing each year's level by its 2014 value and then multiplying by 100. The Total Index for each sector and for the overall exhibition industry is a geometric average of the four component indexes.

1.4.6 FORECASTING OF METRICS

GECA and Inforum (an economic research center associated with the University of Maryland) jointly developed econometric models for each metric in each sector. Common explanatory variables (macroeconomic drivers) for exhibitors, attendees and NSF are sector-related output, consumption expenditures and employment. In addition, total personal consumption, investment and GDP may be included. While supply and demand of exhibition space play some roles, real revenues are mainly determined by NSF and attendees. Inforum provides the forecast for those macroeconomic drivers to generate forecasts for each metric.

1.5 ORGANIZATION OF THE REPORT

The next chapter explains the state of the macroeconomy and the overall exhibition industry and gives the outlook for 2018 to 2020. The report from Chapter 3 onward presents the underlying macroeconomic drivers and their impact on exhibition performance sector by sector. Anyone interested only in a particular sector, after reading Chapter 2, can jump to the sector report of interest in this document. The material is organized in such a way that the discussion of each sector can be a stand-alone report.

1.6 DISCLAIMER

This report incorporates the economic data released prior to 10 March 2018. All information contained herein is obtained by CEIR from sources believed to be accurate and reliable. All forecasts and predictions contained herein are believed by CEIR to be as accurate as the data and methodologies will allow. However, because of the possibilities of human and mechanical error, as well as other factors such as unforeseen and unforeseeable changes in political and economic circumstances beyond CEIR's control, the information herein is provided "as is" without warranty of any kind, and CEIR and all third-party providers make no representations or warranties, express or implied, to any subscriber or any other person or entity as to the accuracy, timeliness, completeness, merchantability or fitness for any particular purpose of any of the information or forecasts contained herein.