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White Paper

Revenue Trends and Analysis

PURPOSE

This White Paper examines the meaningful ways Revenues can be analyzed, among other things:

(1) To provide a basis for making near-term and long-term operational decisions,

(2) To assist in timing of capital expenditures, and

(3) To determine the long-term effects of inflation, competition, and demographic changes.

DEFINITION

Revenues are those inflows of cash and receivables to the restaurant that come from customers in return for the delivery by the restaurant of its primary goods (food and beverage) and its services (service and ambiance).

OVERVIEW

Trends in Revenues can be analyzed over several time periods:

(1) **Weekly Revenues** are calculated for a continuous 7-day period. In the restaurant industry, there is no requirement that this 7-day cycle begin or end on any particular day; however, the majority of restaurateurs and restaurant analysts consider the weekend – Saturday and Sunday – as the end of the week and begin their analytic weeks on Monday.

Weekly Revenues are most frequently used to measure:

(a) The relationship between "Cost of Goods Sold (COGS)-Consumables" and Revenues, and

(b) Labor Productivity (see below).

(2) **Monthly Revenues** are calculated for periods of time consisting of either:

(a) The actual number of days in a calendar month – from 28 to 31, or

(b) The 4-week (28-day) "accounting month," which was widely used prior to the advent of database-driven accounting software. The discontinued use of the 28-day "accounting month" has been hastened by requirements of restaurant franchisors for calendar-month Revenue reporting to calculate royalties.

Note that the use of the 28-day "accounting month" requires that there be:

[1] 13 "accounting months" in each "accounting year" (364 days), and

[2] One additional "accounting week" (7-day period) added about every four years, customarily in years when the thirteen cycles of 28 days each have moved the "accounting year-end"four days back.

(3) **Yearly Revenues** are accounted in one of two ways, depending on the purpose for which the data are being compiled:

(a) Fiscal year consisting of 12 consecutive calendar months typically ending on 31 December, which is the tax year-end for cash-basis taxpayers, or

(b) 12 prior ("trailing") months, which can be calculated to end every month throughout the year after the first 11 months; this method of compiling and graphing data allows the analyst to filter out Seasonality and view long-term trends in Revenues.

When 12-Month Trailing Revenues are adjusted for inflation (using the Consumer Price Index, see below), they provide the analyst:

[1] A view of cyclical trends in a restaurant's actual operation, relatively unaffected by background changes in the overall economy, and

[2] A basis for viewing:

[a] The effects of Capital Expenditures, and

[b] Changes in Commercial and Residential Demographics, and in Competition.

ANALYSIS

Weekly Revenues can be used to:

(1) **Evaluate Labor Productivity** using the formula: $\frac{\text{Revenues}}{\text{Crew Labor Hours}}$

The evaluation of Labor in foodservice can be divided into:

(a) **Labor Productivity** – Revenue per hour of labor, which is the result of the management of Hourly Labor (scheduling, task assignment, degree of task specialization), and

(b) **Average Wage Rate**, which is the result of the relatively pure competition for foodservice labor in the market and, theoretically, cannot be influenced by any operator.

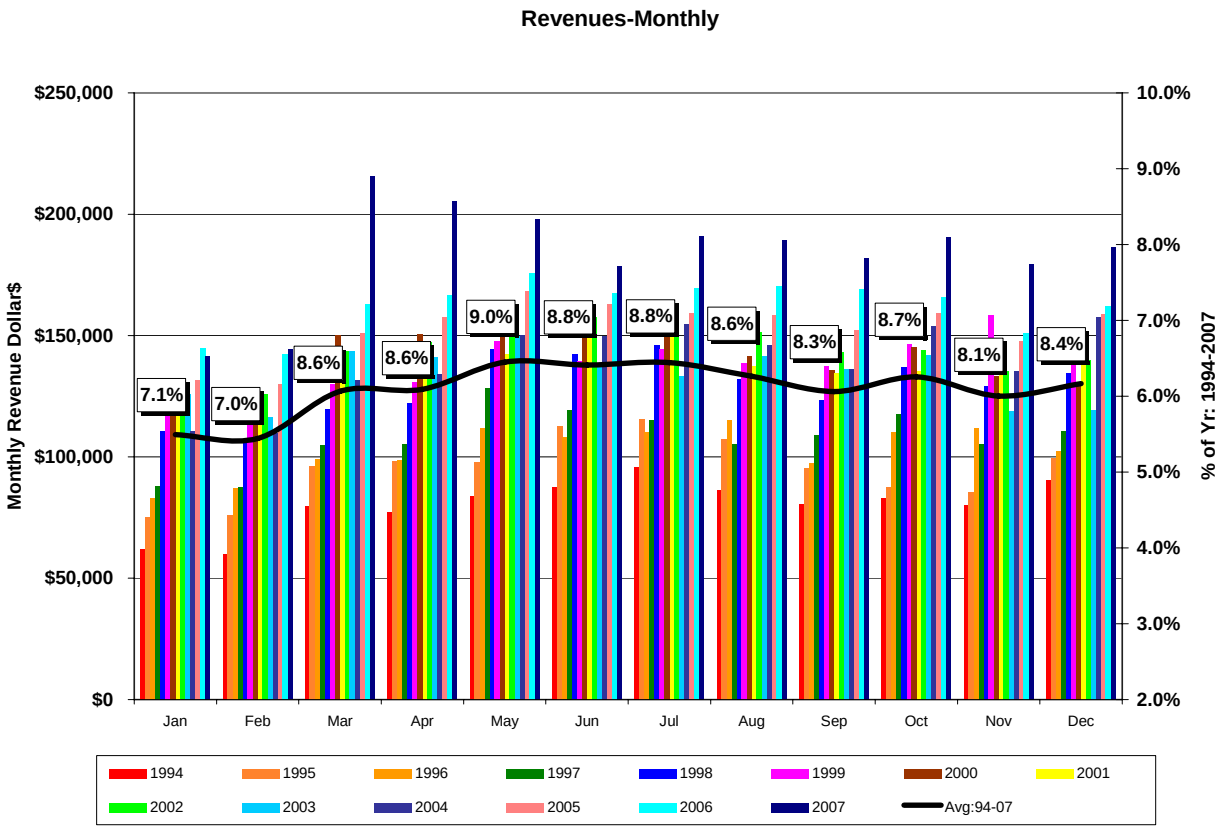
(2) **Track Cost of Goods Sold-Consumables**, the costs associated with Food, Beverage, Paper and other tangible goods that are delivered to the consumer, as a percentage of Revenues.

Monthly Revenues, presented in the following table, demonstrate **Seasonality**, which consists of changes in total monthly patronage due to climatic conditions (temperature, moisture, sunlight), and due to the number of days per month:

	1994	1995	1996	1997	1998	1999	2000	2001
Jan	62,023	75,185	82,888	87,796	110,887	118,517	127,967	117,828
Feb	60,093	76,020	87,321	87,560	106,283	113,153	126,849	116,671
Mar	79,883	96,285	99,322	105,042	119,652	129,975	150,241	137,421
Apr	77,358	98,278	98,844	105,179	122,138	130,711	150,544	132,803
May	83,634	97,902	111,879	128,150	144,234	147,813	151,222	142,553
Jun	87,726	112,567	108,019	119,452	142,155	139,597	153,052	152,817
Jul	95,972	115,567	110,011	115,206	145,895	144,605	156,099	152,740
Aug	86,357	107,439	115,118	105,450	132,086	138,826	141,670	137,613
Sep	80,462	95,345	97,587	109,213	123,387	137,405	135,710	134,381
Oct	82,848	87,751	110,407	117,708	137,228	146,354	145,476	135,269
Nov	80,155	85,525	111,762	105,376	129,120	158,569	133,448	134,240
Dec	90,648	99,424	102,555	110,474	134,371	148,610	130,501	138,904
Total	**967,159**	**1,147,288**	**1,235,713**	**1,296,606**	**1,547,436**	**1,654,135**	**1,702,779**	**1,633,240**

	2002	2003	2004	2005	2006	2007	Avg 94-06	Avg 94-06
Jan	123,240	125,836	110,714	131,832	144,812	141,468	109,194	7.1%
Feb	125,954	116,595	109,666	130,160	142,301	144,261	107,587	7.0%
Mar	143,531	143,730	131,531	151,179	163,118	215,744	126,993	8.3%
Apr	147,290	141,240	134,086	157,597	166,601	205,296	127,898	8.3%
May	156,667	149,720	150,352	168,396	175,746	197,904	139,098	9.1%
Jun	157,621	138,592	149,935	163,055	167,616	178,559	137,862	9.0%
Jul	152,612	133,184	154,771	159,090	169,356	190,883	138,854	9.0%
Aug	151,464	141,372	145,865	158,290	170,370	189,143	133,225	8.7%
Sep	143,441	136,182	136,267	152,337	169,083	***182,041***	126,985	8.3%
Oct	144,021	142,140	154,028	159,302	165,745	***190,585***	132,944	8.7%
Nov	135,410	118,996	135,356	147,563	151,078	***179,372***	125,123	8.1%
Dec	139,738	119,278	157,574	158,718	162,035	***186,676***	130,218	8.5%
Total	**1,720,989**	**1,606,865**	**1,670,145**	**1,837,519**	**1,947,861**	**2,201,932**	**1,535,980**	**100.0%**

The graphic presentation of the raw monthly Revenue data in the above tables makes the **Seasonality** easier to see:



This graph compares the actual Revenues in each month (left-hand vertical axis) over a 14-year period; it also shows the relative percentage of total yearly Revenues in each month (right-hand vertical axis), on average, for the same period.

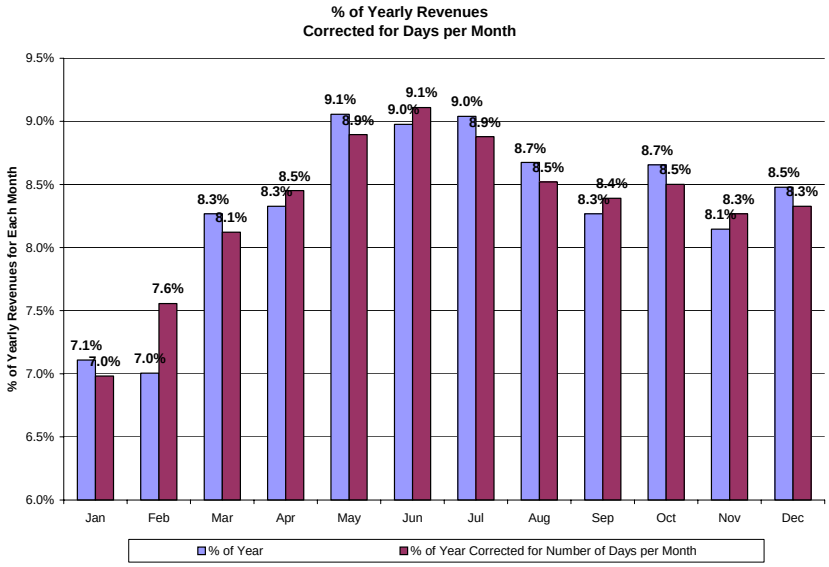
Note that the sales in Mar-2007 increased dramatically. This was the result of a major competitor's closing for almost 120 days to remodel its restaurant. Note also that the resultant gain in Revenues to the subject unit were not wholly lost when the competitor reopened. While the precise measurement of this newly captured Revenue is a separate subject, the fact that patronage is gained and retained is largely due to:

(1) The willingness of patrons to substitute the food and beverages offered by the subject unit for those of its competitor(s), and

(2) The ability of the restaurateur to operate – additional consumables (food, beverage, paper, etc.) and additional labor (scheduling, task assignment, degree of task specialization) – under the pressure of the sudden increase in patronage.

Because of the varying number of days (28 – 31) in a calendar month, a more accurate comparison of Revenues from month to month is obtained by examining the average Revenues per Day in each month. For the purpose of simplicity, this calculation is made only for the average of monthly Revenues for the all years 1994 through 2006, to wit:

	94-06 $ Rev/Mo	94-06 % Rev/Mo	94-06 $ Rev/Day	94-06 % Rev/Day
Jan	109,194	**7.1%**	3,522	**7.0%**
Feb	107,587	**7.0%**	3,812	**7.6%**
Mar	126,993	**8.3%**	4,097	**8.1%**
Apr	127,898	**8.3%**	4,263	**8.5%**
May	139,098	**9.1%**	4,487	**8.9%**
Jun	137,862	**9.0%**	4,595	**9.1%**
Jul	138,854	**9.0%**	4,479	**8.9%**
Aug	133,225	**8.7%**	4,298	**8.5%**
Sep	126,985	**8.3%**	4,233	**8.4%**
Oct	132,944	**8.7%**	4,289	**8.5%**
Nov	125,123	**8.1%**	4,171	**8.3%**
Dec	130,218	**8.5%**	4,201	**8.3%**



The above graph demonstrates a subtle but important aspect of Revenue analysis for restaurants: While February often has the lowest absolute amount of Revenue of any calendar month, in fact, February's average daily Revenues are often greater than those of January's average daily sales. In most markets in the US, January Revenues experience a post-holiday downturn. Such information can be important to the restaurateur for:

(1) Planning purchases of Consumables,

(2) Scheduling Labor,

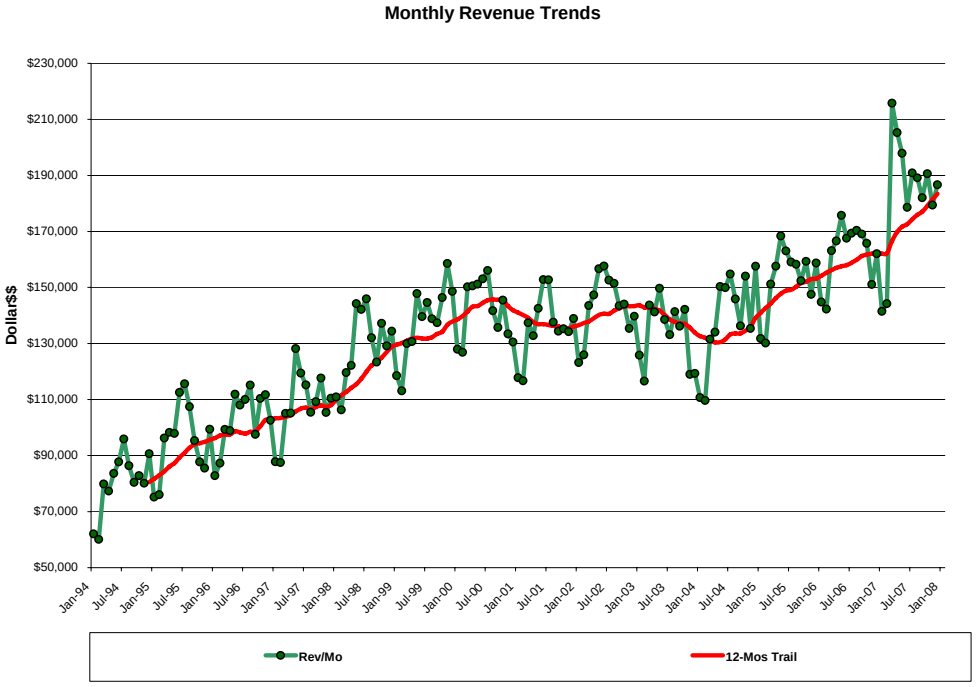
(3) Initiating Marketing, and

(4) Closing temporarily for up-grades in Fixed Assets – Fixtures, Furniture, Equipment, Signage, Parking Lot, Building Exterior, etc.

Yearly Trends in Revenues are presented in the following table that shows 12-Month Trailing Revenues ending each month from Dec-1994 through Dec-2007, with *projections* for the Revenues during the final four months in the series:

	1994	1995	1996	1997	1998	1999	2000
Jan	-	980,321	1,154,991	1,240,621	1,319,697	1,555,066	1,663,585
Feb	-	996,248	1,166,292	1,240,860	1,338,420	1,561,936	1,677,281
Mar	-	1,012,650	1,169,329	1,246,580	1,353,030	1,572,259	1,697,547
Apr	-	1,033,570	1,169,895	1,252,915	1,369,989	1,580,832	1,717,380
May	-	1,047,838	1,183,872	1,269,186	1,386,073	1,584,411	1,720,789
Jun	-	1,072,679	1,179,324	1,280,619	1,408,776	1,581,853	1,734,244
Jul	-	1,092,274	1,173,768	1,285,814	1,439,465	1,580,563	1,745,738
Aug	-	1,113,356	1,181,447	1,276,146	1,466,101	1,587,303	1,748,582
Sep	-	1,128,239	1,183,689	1,287,772	1,480,275	1,601,321	1,746,887
Oct	-	1,133,142	1,206,345	1,295,073	1,499,795	1,610,447	1,746,009
Nov	-	1,138,512	1,232,582	1,288,687	1,523,539	1,639,896	1,720,888
Dec	967,159	1,147,288	1,235,713	1,296,606	1,547,436	1,654,135	1,702,779

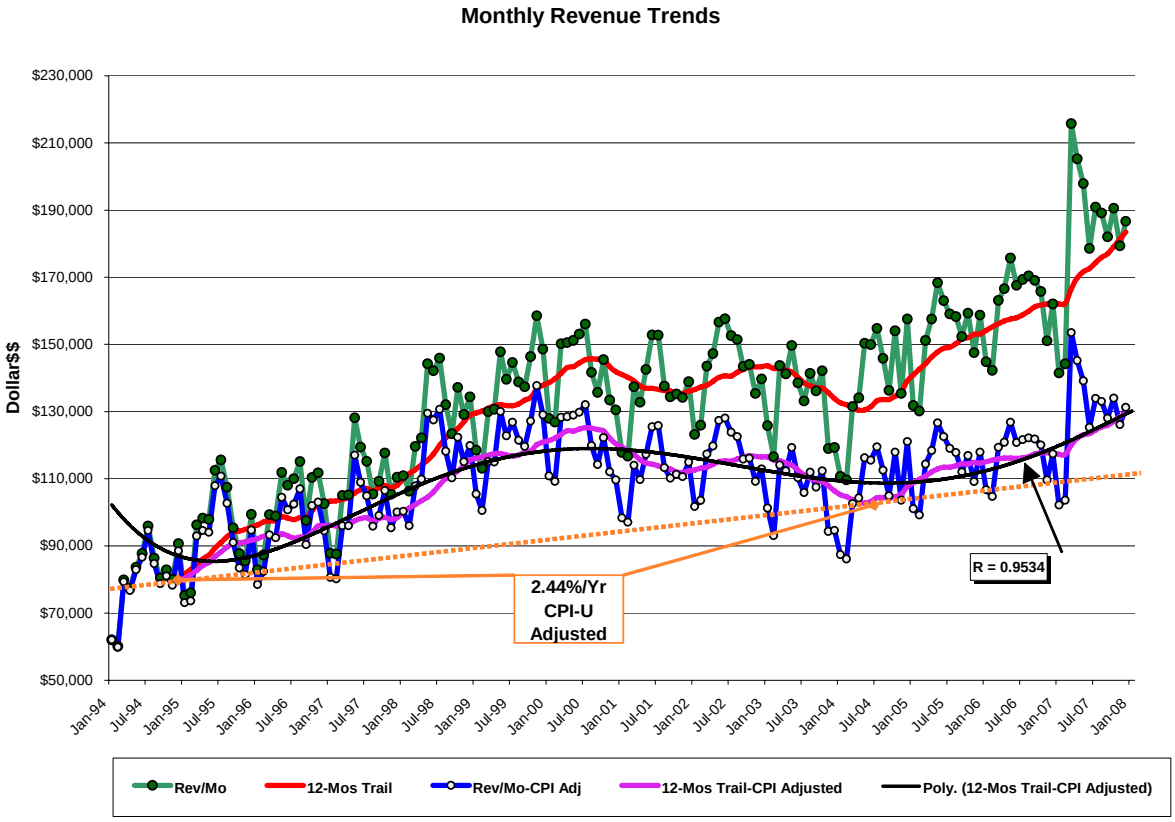
	2001	2002	2003	2004	2005	2006	2007
Jan	1,692,640	1,638,652	1,723,585	1,591,743	1,691,263	1,850,499	1,944,517
Feb	1,682,462	1,647,935	1,714,226	1,584,814	1,711,757	1,862,640	1,946,477
Mar	1,669,642	1,654,045	1,714,425	1,572,615	1,731,405	1,874,579	1,999,103
Apr	1,651,901	1,668,532	1,708,375	1,565,461	1,754,916	1,883,583	2,037,798
May	1,643,232	1,682,646	1,701,428	1,566,093	1,772,960	1,890,933	2,059,956
Jun	1,642,997	1,687,450	1,682,399	1,577,436	1,786,080	1,895,494	2,070,899
Jul	1,639,638	1,687,322	1,662,971	1,599,023	1,790,399	1,905,760	2,092,426
Aug	1,635,581	1,701,173	1,652,879	1,603,516	1,802,824	1,917,840	2,111,199
Sep	1,634,252	1,710,233	1,645,620	1,603,601	1,818,894	1,934,586	*2,124,157*
Oct	1,624,045	1,718,985	1,643,739	1,615,489	1,824,168	1,941,029	*2,148,997*
Nov	1,624,837	1,720,155	1,627,325	1,631,849	1,836,375	1,944,544	*2,177,291*
Dec	1,633,240	1,720,989	1,606,865	1,670,145	1,837,519	1,947,861	*2,201,932*



(1) The **green data series** consists of Monthly Revenues without adjustment for seasonality and without adjustment for inflation (CPI).

(2) The **red data series** consists of Monthly Revenues with adjustment for seasonality and without adjustment for inflation (CPI)

This long-term view of 12-Month Trailing Revenues can be further refined by adjusting Revenues for price inflation, as represented by the Consumer Price Index (CPI). The data series (U.S. All Items, 1982-84=100 – CUUR0000SA0) used to generate adjustments for the following graph came from http://www.bls.gov/cpi/ .



Monthly Revenues-Data Series	Green	Red	Blue	Purple	Black
Adjustment for Seasonality	No	Yes	No	Yes	NA
Adjustment for Inflation (CPI)	No	No	Yes	Yes	NA

(1) The **green data series** consists of Monthly Revenues without adjustment for seasonality and without adjustment for inflation (CPI).

(2) The **red data series** consists of Monthly Revenues with adjustment for seasonality and without adjustment for inflation (CPI)

(3) **The blue data series** consists the Monthly Revenues (**green data series**) without adjustment for seasonality and with adjustment for inflation (CPI).

(4) **The purple data series** consists the Monthly Revenues with adjustment for seasonality and with adjustment for inflation.

(5) The **black data series** is a 5^{th}-degree polynomial equation that correlates 95.3% to the **purple data series**.

(6) The **orange linear trend** connects the two minimum points (Nov-94 and May-04) on the **purple data series**. Its slope is the compound rate (**2.44%**) of increase in Revenues over that 113-month (9.4-year) period, after adjustment for seasonality and after adjustment for background economic inflation, as represented by the CPI-U.

The proprietary database of *QuikVal*℠ shows that this long-term ***Branding Trend***:

(1) Runs one complete cycle every 8.5 to 11.5 years, and

(2) Is significantly correlated to:

(a) Timing and amount of Capital Expenditures

(b) Location and nature of Competition, and

(c) Adaptation of the "Brand" (concept) to constant change in Residential and Commercial demographics in its market area,.

Adjustment to Revenues for "Special" Days may give a still more accurate estimate of Revenue Trends. A survey of Revenues by *QuikVal*℠ for a high-end casual restaurant in a prosperous, upscale, outdoor suburban setting indicated the following adjustments were necessary for accurate Revenue projections:

Month	Holiday, Event, Celebration	Estimated Net Effect in Days [1]
Jan	New Year's Day	- 1.0
Feb	Super Bowl Sunday	- 0.5
	Valentine's Day (may be greater when Valentine's Day falls on a Fri, Sat, Sun or Mon.	+ 1.0
Mar	No Special Days	
Apr	Easter	+ 1.0
	Passover	+ 2.0
May	Memorial Day (Local population goes to a nearby Lake)	- 1.0
	Mother's Day	+ 1.0
Jun	Beginning of Scholastic Summer Vacation Period	- 1.0
	Father's Day	+ 0.5
Jul	4th of July	+ 1.0
Aug	No Special Days	
Sep	Labor Day	+ 1.0
	Jewish New Year (Rosh Hashanah)	+ 1.0
	Arts Festival (in the same center as the restaurant)	+ 3.0
Oct	Halloween	+ 0.5
Nov	Thanksgiving	+ 4.0
Dec	Christmas Eve through New Year's Eve	+ 8.0

[1] These are the number of days in each month that are added (+) or subtracted (-) based on competing human activities in the units market area.

SUMMARY

Trends in restaurant Revenues can be meaningfully analyzed in several ways and over several time periods:

Weekly Revenue Trends are used by restaurateurs to:

(1) Plan Labor utilization, and

(2) Order Consumables, especially food and beverages.

Monthly Revenue Trends are used by restaurateurs to:

(1) Plan long-term purchases of Consumables, especially paper products and supplies

(2) Schedule Vacations and Training sessions for Hourly Employees and Management,

(3) Time Marketing Initiatives, and

(4) Schedule temporary closure of a unit for Capital Improvements – Fixtures, Furniture, Equipment, Signage, Parking Lot, and Building Exterior.

Yearly Revenue Trends are used by restaurateurs and their financial advisors to:

(1) Estimate future Revenues and Revenue Trends

(2) Plan the timing and amount of Capital Expenditure, and

(3) Determine the advisability of renewing franchise rights for a unit.

Short-term and long-term Revenue Trends reflect, among other things:

(1) **Overall state of the Economy** – inflation, demographics (age, income, population density), and changes in consumer tastes,

(2) **Restaurant Industry Trends** – foodservice technology, governmental regulation, and restaurant design and function,

(3) **Locational Characteristics** – Visibility and signage, access and parking, zoning and competition

(4) **Physical Attributes** – Design, ergonomics, condition and maintenance of interior and exterior equipment and spaces, and

(5) **Seasonality** – changes in patronage due to climatic conditions (temperature, moisture, sunlight, length of month).

END

