BTA Business Technology Association®

2019 Business Equipment Quota Index

Introduction & User's Guide / 2020 Update

2019 Business Equipment Quota Index 2020 Update

A market quota index for monochrome and color MFPs, monochrome and color single-function laser printers, and large-format printers.

TENTH EDITION

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This tenth edition of the Business Technology Association's Business Equipment Quota Index (BEQI) provides comprehensive market potential indices for the major business equipment industry categories. Exclusively covering all U.S. sales territories including state, metropolitan, county and ZIP code levels, this guide enables manufacturers, dealers, wholesalers and distributors to make informed marketing decisions.

To meet the needs of various BEQI users, BTA reports the following categories of office equipment in the Private Sector report, and the sum total of these categories in the State and Local Government Report:

- Monochrome MFPs
    - Total
    - Four speed classes defined by pages per minute
- Color MFPs
    - Total
    - Four speed classes defined by pages per minute
- Single-function monochrome printers
    - Total
    - Four speed classes defined by pages per minute
- Single-function color printers
    - Total
    - Four speed classes defined by pages per minute
- Large format printers

The speed classes are 1-20 pages per minute (ppm), 21-30 ppm, 31-69 ppm and 70-plus ppm. For each category, BEQI indices are provided for 2019 (estimated actual purchases) and planned purchases for 2020 and 2021.

About the Update: The 2019 BEQI model was released just prior to a major update of US Census and Commerce Department data, as well as updated forecasts from IDC. With IDC, almost one-quarter of color laser printer shipments were reclassified as color MFP shipments – a substantial change. These are all key inputs to the model. The analyst felt that the existence of these updates made the

initial 2019 model “dated” and thus that a revision needed to be provided. The revision also helped to resolve so questions about the data in the original model.

Methodology

As with previous editions, the 2019 BEQI makes it possible to compare the volume of business equipment sales in different geographical areas (states, metropolitan areas, counties and ZIP codes). Each geographical area has 51 BEQI index numbers corresponding to the 17 categories of MFPs, single-function printers and large-format printers for 2018, 2019 and 2020.
Each BEQI index number represents the area’s share of total U.S. shipments of that type of equipment for that particular year. It takes into account the geographical area’s industry profile and controls for variations in the amount of equipment purchased per employee in different sizes of companies and different industries. All results are reported in terms of geographic (not industry) level.
Each BEQI index number is based on three data sources:

1. Census Bureau data showing the number of employees by industry in each geographical area.

2. Survey: 1,200 decision-makers completed the survey concerning amounts of equipment purchased in 2018, and planned for 2019 and 2020. Respondents took part in a web-based survey (stratified by 13 industries) conducted in January 2019 by Crain Associates Research LLC, a marketing research and consulting firm located in New Jersey. Respondents were screened to verify that they were involved in business equipment purchasing decisions, and that they were employed by nongovernmental organizations with at least 10 employees.

3. IDC estimates of the total volume of shipments of each device category in the US. The IDC numbers are used as targets in the model (shipments across categories in the model sum to the IDC figures).

Data processing: As in past years, the survey was carefully cleaned to remove illogical data and to address missing information. To derive the BEQI indices, ratios of equipment purchases per employee were computed at the industry level and then applied to the distribution of employment by industry at each geographic level.

Handling of Equipment Purchases by Large Employers

The 2019 survey includes companies ranging from one to 15,000 distinct business locations. The average number of locations is 1; the median number of locations is 3.

The purchasing behavior of large organizations was a source of much discussion in the creation of earlier waves of this model. We know that master purchasing agreements are signed at corporate or division HQ levels, but the equipment may not be delivered there.

After experimenting with different approaches to allocating corporate purchases, in 2013, the decision was made to let the distribution of employees drive the allocation.

In 2019, we have replicated the model specifications used in the last two waves for ease of comparison and use of the model.

Sales Channels

Both the 2016 and 2013 BEQIs include questions on spending by sales channels, allowing comparisons between these years.

The 2019 survey shows a continued but slight and statistically insignificant reduction in spending with dealers/distributors. The proportion of dollars spent with this channel has fallen from 22.8% in 2016 to 20.8%. This is offset by slight increases in spending with retailers, VARs and Online.

Channel	Average proportion of spending with each channel		
	2019 (1200)	2016 (1225)	2013 (1083)
Retailer	24.1%	23.3%	21.9%
Dealer distributor	20.8%	22.8%	28.6%
Manufacturer	20.4%	22.5%	22.7%
Internet	19.0%	16.2%	13.2%
VAR	10.0%	9.5%	8.0%
Other	5.7%	5.7%	5.6%

Managed Print Services

Since 2013, BEQI surveys have included questions about managed print service (MPS) contracts. Under these agreements, vendors manage and/or provide service and supplies to all (or essentially all) copier/MFPs and printers at a customer location regardless of brand. They may also supply new printers at the start or during the contract period.

Growth in demand for these contracts has slowed since 2016. There seems to be a solid 30% of the market that feels these contracts aren't advantageous.

Statements about Managed Print Services	Percent of state and local government organizations reporting		
	2019	2016	2013
We have a managed print services contract	57%	54%	43%
A managed print services contract is planned or under consideration	2%	4%	8%
We would consider a managed print services contract and would like more information	9%	11%	8%
We do not need a managed print services contract	30%	29%	19%
Not sure	2%	4%	10%

IDC Equipment Forecast

Market research firm IDC reports the 2018 actual product unit placements in the U.S. market and forecasts the 2019 through 2021 product placements as follows:

IDC data	Actual 2018 *revised*	Forecast 2019	2020	2021
Mono Laser MFPs Total	1,501,142	1,534,195	1,505,192	1,455,858
Mono Laser MFP 1-20ppm	80,456	140,140	142,080	140,659
Mono Laser MFP 21-30ppm	575,729	488,586	455,083	430,131
Mono Laser MFP 31-69ppm	801,766	861,844	865,088	842,952
Mono Laser MFP 70+ppm	43,191	43,625	42,941	42,116
Color Laser MFPs Total	1,347,502	1,426,067	1,457,721	1,485,587
Color Laser MFP 1-20ppm	173,121	141,299	135,406	129,683
Color Laser MFP 21-30ppm	715,158	802,516	841,348	878,767
Color Laser MFP 31-69ppm	441,057	462,250	461,389	457,721
Color Laser MFP 70+ppm	18,166	20,002	19,578	19,416
Mono Laser & Color Laser MFPs Total	2,848,644	2,960,262	2,962,913	2,941,445
Color Laser Printers Total	400,682	394,601	386,648	377,848
Color Laser Printer 1-20ppm	44,178	32,283	27,651	23,668
Color Laser Printer 21-30ppm	224,145	229,192	227,745	225,328
Color Laser Printer 31-69ppm	128,598	129,037	127,074	124,569
Color Laser Printer 70+ppm	3,761	4,089	4,178	4,283
Mono Laser Printer Total	1,471,599	1,502,458	1,457,557	1,398,736
Mono Laser Printer 1-20ppm				
Mono Laser Printer 21-30ppm	100,207	118,244	123,329	121,351
Mono Laser Printer 31-69ppm	250,901	225,811	213,391	201,485
Mono Laser Printer 70+ppm	1,114,220	1,151,524	1,114,087	1,069,289
Large Format (Inkjet and Laser)	76,920	76,888	90,600	90,054

*From IDC Data from Q4/2019 HCP tracker

How to Use the BEQI

Geographical Definitions

- State: The District of Columbia is treated as the statistical equivalent of a state for BEQI.
- Metropolitan Statistical Area: A Metropolitan Statistical Area (MSA) is a relatively freestanding metropolitan area; is not closely associated with other metro areas; and is typically surrounded by non-metropolitan counties. The title of an MSA contains the name of its largest central city, and up to two additional places that meet specified levels of population, employment and commuting. Generally, a city with a population of 250,000 or more is in the title. In cases like Los Angeles, where Orange County is sometimes treated as a part of Greater Los Angeles and sometimes treated as a freestanding metropolitan area, separate BEQI MSAs are defined for the individual urban areas that form huge urban regions.
    - OMB defines MSAs, and there have been revisions in definitions in 2017 and 2018. While this is done to modify the distribution of Federal grants, it also affects all users of these data, including the BEQI.
- County: A county is a major political and administrative subdivision of a state. In Louisiana, such divisions are called parishes. In Alaska, 23 boroughs and “Census Areas” are treated as county equivalents for census purposes. Several cities (Baltimore, Maryland; St. Louis, Missouri; Carson City, Nevada; and 41 Virginia cities) are independent of any county organization and thereby constitute primary divisions of their states and are treated the same as counties in census tabulations.
    - Counties are rarely renamed. Alaska has been the only state to do this in the last decade, with a county named for a historical figure (Wade Hampton) changed to a Native American name for the area.
- ZIP Code: ZIP codes primarily identify areas within the United States to simplify and speed the distribution of mail. Although data based on ZIP codes

may be used for geographic and demographic purposes, the data should be used with caution, since ZIP code alignments do not necessarily conform to boundaries of cities, counties, states or other jurisdictions.

Measuring Market Potential

Each BEQI number indicates a geographical area's potential for equipment sales as a percentage of the total United States potential for that kind of equipment. For example, the state summary for Colorado shows a 2019 BEQI for MFPs of 1.95011895815466%. This number should be interpreted as: Colorado has the potential to consume 1.950% of the nation's MFPs in 2019. Note that:

- BEQI numbers CAN be added together when defining regions (the New England BEQI = the sum of the six New England state BEQIs).
- As in prior waves, BEQI numbers can be added together across equipment types (total BEQI for MFPs should equal the sum of the speed classes, with minor exceptions caused by rounding or incomplete data from some respondents).
- To estimate actual sales for a given area, simply multiply the BEQI index by the appropriate IDC forecast of sales for the business equipment in question. Formula: BEQI x IDC # = # of Units

Evaluating/Assigning Territories

To have an efficient and successful sales force — and, more specifically, efficient and successful salespeople — it is of utmost importance to assign equitable territories. Because the BEQI was developed specifically for the office technology industry, it is the ideal source for the information you need to establish sales boundaries with reasonable accuracy.

Ideally, all territories should have approximately the same potential for sales. In defining the boundaries, you need to know the number of salespeople you have who will be covering the assigned area along with the area's BEQI figures.

For example, say you are a dealer selling MFPs in Delaware and that you have five salespeople covering the state.

- STEP 1: Determine the total market potential for MFPs in the Delaware market. There are two ways to do this:

  - First, you can look at the BEQI State spreadsheet. Delaware has a BEQI of 0.296680903% for 2019.
    - ✓ NB: The state number is based on a more recent forecast (2019) than the county or zip code numbers (2018). In general, if the state number exceeds the sum of the county numbers, that indicates job growth, and makes it likely that the next BEQI will have higher numbers for at least some of the counties in the state. If the state number is lower, then the opposite is true. In most cases, the total for 2018 and the 2019 figure will be quite similar. The exceptions will occur in high growth areas like Nevada (Las Vegas).
    - ✓ The county numbers, in this example, still provide the best available estimates for allocating sales personnel and sales quotas across a specific region.

  - You also can look at the County or ZIP code spreadsheet. Delaware has three counties. The counties and the BEQI for each are shown below:

Kent	0.048219152%
New Castle	0.185378950%
Sussex	0.065332771%
Total:	0.298930873%

    Not surprisingly, the bulk of volume is in the Wilmington area (New Castle County)

- STEP 2: Divide the BEQI by the number of salespeople. 0.298930873%/5 = 0.05978617%. Each salesperson's territory should have an approximate BEQI of 0.06%. (In practice, salespeople working in the Wilmington area have ready access to parts of the Philadelphia metro area and southern New Jersey. One may want to include counties from those areas to define the greater sales territory; before Step 3.)

- STEP 3: Assign territories by clusters of ZIP codes whose BEQI indices sum to approximately 0.0008. Due to physical boundaries and other variables, it is not always possible to be precise. However, the effort should always be made to arrive at figures as close to the average as possible, thereby giving each person on your sales team equal opportunity to succeed.

Setting Sales Quotas

Whether you are a dealer or a manufacturer, your ability to set sales quotas equitably will greatly affect your salespeoples' performance. Many salespeople/dealers have wondered how a quota was set and have assumed that it was randomly decided. The BEQI offers reasonably accurate statistical information and, if used judiciously with other relevant data, will satisfy your sales team members' inquiries and drive them to peak performance. Sales quotas are generally based on either unit sales or dollar sales. Either is compatible with the BEQI.

Example 1: XYZ Inc. wants to sell 30,000 MFPs in the United States and wants to calculate how many they should allot to the Philadelphia, Pennsylvania, metropolitan area. (BEQI numbers are reported to five decimal places in our tables; this is simplified in these examples for readability.)

- STEP 1 - Locate the MFP BEQI for the Philadelphia MSA, which is 1.95914695%.

- STEP 2 - In order to assign a quota to the Philadelphia market, the total number of MFPs that are to be sold by XYZ (30,000) is multiplied by the BEQI index. Thus: 30,000 units X (1.95914695%/100) = 588 units (rounded to the nearest whole number from 587.7441).

Example 2: ABC Office Systems in Houston, Texas, has a quota of 3,500 MFPs from XYZ Technology. The counties that ABC Office Systems covers are Fort Bend, Harris and Liberty.

- STEP 1 - To determine its total MFP potential as a percentage of the nation's potential, the sales team at ABC Office Systems adds the MFP BEQIs for each of the three counties it covers.

Fort Bend	+	Harris	+	Liberty	= Total local MFP potential
0.00134361	+	0.02846030	+	0.00008337	= 0.02988728

- STEP 2 - To arrive at each county's potential as a percentage of ABC's total MFP potential, each county's BEQI is divided by the dealership's total MFP potential.

Fort Bend BEQI (0.00134361) divided by ABC total BEQI (0.02988728) = 0.0449559 (which can be expressed as 4.5% of the local potential)
(Similar calculations will yield the proportions for the remaining counties.)

- STEP 3 - To allot the 3,500 units among the counties in proportion to their potential, multiply the quota (3,500 units) by each county's potential.

Fort Bend	0.0449559 X 3,500	= 158 units
Harris	0.9522546 X 3,500	= 3,333 units
Liberty	0.00278948 X 3,500	= 10 units

Measuring Sales Performance

The sales manager's responsibilities include assessing the performance of his (or her) salespeople. Using the BEQI in conjunction with your actual sales figures can give you concise and objective information that will aid you in evaluating your sales team's performance.

Let's say that ABC Office Systems in Houston wants to evaluate its monochrome MFP sales performance for the three counties it serves.

- STEP 1 - Same as the previous section, using the BEQI for monochrome MFP printers

- STEP 2 - Same as the previous section.

- STEP 3 - Total all actual sales by county to arrive at the actual monochrome MFP sales for the territory. Then multiply the county share by the total monochrome MFP machine sales for the territory. The resulting number (BEQI sales) represents the potential for sales for the given county based on ABC's total actual monochrome MFP sales.

- STEP 4 - To arrive at the Performance Index — a number or percentage that indicates how much of an area's potential has been reached in relation to the total sales — divide each county's actual sales by its BEQI sales (calculated in Step 3). Hypothetically,

$$\frac{\text{Actual Sales (\$50,000)}}{\text{BEQI Sales (\$92,480)}} = \text{Performance Index (0.54 or 54\%)}$$

Allocating Advertising Dollars

Advertising is critical to equipment sales and using advertising dollars effectively is important. Because the BEQI measures an area's potential purchasing power for business equipment, it is an ideal source of information to advertising departments or agencies wanting to develop effective campaigns for business equipment. For example, ACZ Advertising Agency represents an MFP manufacturer that is planning to focus $1 million in advertising in three Midwestern states (Kansas, Missouri and Nebraska).

- STEP 1 - Add total MFP machine BEQIs for all three states.

Kansas	+	Missouri	+	Nebraska	= Total BEQI
0.009752	+	0.019340	+	0.006993	= 0.036085

- STEP 2 - Divide each state BEQI by the total BEQI for MFP machines to arrive at the recast state percentages.

Kansas BEQI (0.009752) divided by Total BEQI (0.036085) = Kansas share (0.2702508 or 27%)

Based on similar calculations for the remaining regions, the most efficient distribution of advertising dollars for these three areas would be as follows:

- Kansas: 27%
- Missouri: 53.6%
- Nebraska: 19.4%

This example raises the point that such data should not be used without thought. Since Kansas and Missouri share a major metropolitan area (Kansas City, which crosses state boundaries), one may have to refine these percentages.

Selecting Test Markets

One of the BEQI's most valuable uses is in selecting test markets. Because the BEQI gives the potential for business equipment sales by state, metro and county, it offers manufacturers and vendors the highest probability for successful test marketing. Once again, since the BEQI is based on the potential for businesses to purchase equipment, it is easier to select markets with a high potential for sales, thereby improving your chances for success.