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NFIB Research Foundation

National Small Business Poll

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NFIB National Small Business Poll

The State of Technology

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The *National Small Business Poll* is a series of regularly published survey reports based on data collected from national samples of small-business employers. Eight reports are produced annually with the initial volume published in 2001. The *Poll* is designed to address small-business-oriented topics about which little is known but interest is high. Each survey report treats different subject matter.

The survey reports in this series generally contain three sections. The first section is a brief Executive Summary outlining a small number of themes or salient points from the survey. The second is a longer, generally descriptive, exposition of results. This section is not intended to be a thorough analysis of the data collected nor to explore a group of formal hypotheses. Rather, it is intended to textually describe that which appears subsequently in tabular form. The third section consists of a single series of tables. The tables display each question posed in the survey broken-out by employee size of firm.

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The **NFIB Research Foundation** is a small-business-oriented research and information organization affiliated with the National Federation of Independent Business, the nation's largest small and independent business advocacy organization. Located in Washington, DC, the Foundation's primary purpose is to explore the policy related problems small-business owners encounter. Its periodic reports include *Small Business Economic Trends, Small Business Problems and Priorities*, and now the *National Small Business Poll.* The Foundation also publishes ad hoc reports on issues of concern to small-business owners. Included are analyses of selected proposed regulations using its Regulatory Impact Model (RIM). The Foundation's functions were recently transferred from the NFIB Education Foundation.

NFIB National
Small Business
Poll

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Executive Summary

- Fifty-eight (58) percent of small-business owners believe that they are technologically abreast of their primary competitor(s) while 36 percent believe that they are technologically more advanced. Just 2 percent think that they lag. However, only 62 percent employ high-speed Internet and 39 percent have interactive Web sites, suggesting that self-evaluations of their favorable technological positions are exaggerated.

- Small employer views of technology and its introduction appear much more closely tied to industry than to employee-size of business.

- Few small-business owners attempt to be among the first to work with new technologies. Most take a reserved approach to investing in them.

- The most sophisticated type of technology employed in a small business is usually a computer(s) or computer software. Other technologies listed are often computer-driven or computers are otherwise intimately involved in their functioning. The enormous range of the named most sophisticated type of technology runs from nuclear cameras on one end to TurboTax software on the other.

- The generic of the most sophisticated type of technology used is typically not new to the market. It has often been around for a long time. However, 72 percent claim to use the latest model, version, edition, etc. Still, small-business owners use their most sophisticated technology for reasonably long periods of time before upgrading. Just 18 percent need to upgrade within the year. Another 48 percent need to do so in more than one, but less than five years. Since owners may have already operated the piece of technology for several years, replacement occurs less frequently than cited above.

- The most common reason to replace a technology is the desire to upgrade it.

- Ninety-two (92) percent say that they obtained their most sophisticated technology from outside the firm, most likely off-the-shelf. Six percent claim to have developed it in-house. Once obtained, however, 26 percent report they modified it; one in five of those altering the technology modified it substantially.

- If small employers were to replace the most sophisticated technology they now employ, the per unit cost for 26 percent would be less than $1,000. The cost per unit for another 48 percent would be between $1,000 and $5,000. Fifteen (15) percent estimate the cost would be $25,000 or more.

- Forty-one (41) percent have a single copy of their most sophisticated technology and another 15 percent have two. Still, a substantial share of the workforce uses it (them). Over 60 percent report that it takes their most skilled employee less than one month to become proficient using the technology.

- In the last year, 45 percent obtained new or significantly improved processes, equipment or software to produce or distribute its products or services. The most frequent of these was one or more pieces of software.

The State of Technology

The technology employed by a business influences its productivity which in turn influences its competitive position. A healthy competitive position typically yields a successful business, and vice versa. There is, of course, more to productivity and business success than technological prowess. Service, a strong point of many small firms, is illustrative. In fact, if small-businesses competed only on the basis of technology, few would probably exist - except to the extent that they competed exclusively against other relatively technologically poor small businesses. Still, the role technology plays in making small businesses viable competitors should not be underestimated. Thus, this issue of the *National Small Business Poll* examines the State of Technology in smaller firms

Small-business owners typically encounter two competitive disadvantages in employing state-of-the-art technologies — an information problem and a resources problem. The first involves the inherent difficulty of accumulating and evaluating information on the most recent technologies given limited staff and technical capabilities. While not all technology is highly sophisticated nor a radical departure from what went before, new models, new versions, let alone radical improvements, demand a substantial investment of intellectual resources (if available to the firm) to discover and then evaluate changes that may eventually prove inappropriate, non-operable, or excessively expensive. Similarly, technologies and technological upgrades are not necessarily expensive. But they can be very expensive and the more they are, the more small-business owners face resource constraints that limit their abilities to employ technology, or employ technology in its latest iteration. The upshot is that the owner's choice to add, increase, modify or pass on technology is a decision filled with implications for the venture and its ownership.

Current Technology Position

A majority of small-business owners think that the technology used in their industry is quickly changing. One in four (25%) say their industry's technology is changing very rapidly and another 36 percent say that it is changing somewhat rapidly (Q#4). Still, 37 percent see more modest changes occurring, including 10 percent who report little, if any, change.

While sample size prohibits a careful examination of industry differences, owner assessments seem to bear out popular impressions. Perceived speed of change appears associated with industry. Though every industry contains individuals who believe technology is changing rapidly, those views appear most pronounced in certain service industries, for example, professional, scientific, and technical services and information and, to a lesser degree, in manufacturing. Similar assessments are least often present in the distribution industries and in other service industries, such as, accommodations and food services, and personal services. Employee-size of firm appears to be unrelated to the perceived speed of change in industry technology.

Despite the recognized change going on around them, small-business owners are hesitant to alter the technologies they use. Few are willing to risk adopting an unproven technology. Thirteen (13) percent say that they attempt to be the first to try new things and another 15 percent say that they try to adopt promising new ideas before others

jump on board (Q#5). That means a little over one in four purposefully try to stay technologically ahead of others. In contrast, one-third (33%) use the philosophy that "if the current stuff works, don't mess with it." Another 23 percent are a bit more venturesome using new things when they are widely accepted and understood. Fifteen (15) percent adopt the middle position. Though there is a clear relationship between willingness to adopt new technology quickly and sales growth over the last two years, more who are growing take the more reserved approach to adopting new technologies than the more aggressive approach.

Still, small-business owners are confident in their technological capabilities compared to their primary competitors. A significant majority (58%) see themselves technologically abreast of the competition while 36 percent think that they are more advanced than those against whom they compete most vigorously (Q#3). Just 2 percent believe that they are technologically disadvantaged or behind their fiercest rivals. Those who evaluate themselves as more technologically advanced than their primary competitors are, therefore, 18 times more plentiful than those who think the opposite. Those data suggest that the group's assessment is unrealistically favorable. If that is true, owners of the smallest businesses appear most likely to miscalculate. Since the distribution of assessments does not vary by employee size-of-firm, owners of the smallest must consider themselves as relatively technologically advanced (compared to their competitors) as owners of the largest; yet, they are not. The following paragraphs provide evidence that an inflated opinion of a small firm's technological capabilities is common.

The survey collected data on the minimum levels of the non-industry specific technologies most broadly used by businesses in the United States - high-speed Internet and business Web sites - to provide objective measures against which to compare the self-assessments of technological advantage. Seventy-seven (77) percent of small employers report that their business is connected to the Internet (Q#6). Of that number, 81 percent have high-speed access (Q#6a). As a result, 62 percent employ high-speed Internet in their businesses; 38 percent do not. Substantially fewer have interactive Web sites. Fifty-three (53) percent disclose that they have a business Web site (Q#7). Of those with a business Web site, 72 percent claim the site is interactive in the sense that customers can reach the business, place orders, or receive responses through the site. The consequence is that fewer than two in five (39%) small businesses have an interactive Web site; 61 percent do not.

Overestimation of technological capability appears most pronounced among the smallest. Note that 87 percent of those with 20 or more employees have high-speed Internet access compared to 58 percent of the smallest. Similarly, 55 percent of the largest compared to 35 percent of the smallest have an interactive Web site. Objective measures, therefore, show larger, small enterprises typically employing higher levels of technology than smaller ones.

Perceptual measures contrasted to more objective ones suggest that a large number of small-business owners are not nearly as technologically advanced as they think they are. Unless their firms, particularly the smallest, compete only against other small businesses that use minimum levels of technology as well (which is to some extent true), it is difficult to reconcile the contrast in objective and perceptual measures in any other manner.

The Most Sophisticated Technology

The survey asked small employers to identify the most sophisticated piece of technology that they use in their business today; respondents were told that the technology could be a machine, a device of some type, a piece of software or something of that nature. Most of the technologies respondents volunteered are recognizable in generic form to the layman and others are likely recognizable to industry colleagues. Still, owners did not seem to have difficulty identifying their most sophisticated technology.

Almost 200 (of 753) mention a computer (or server) of some type as the most sophisticated technology that they use and about the same number offer software. Software types listed ranged from Cad-cam applications to TurboTax. Diagnostic equipment was common though comparatively few cited telecommunications equipment.

Vehicles are likely to be the most sophisticated technology in a large number of firms, but they are rarely cited. A scattering of office equipment, such as fax machines, are also noted. Finally, a number of machines or devices appear on the list a single time, for example, imaging equipment, fingerprint scanner, plastic injector molder, nuclear camera, hydrogen fuel cells, and an embroidery machine.

Just 17 percent report their most sophisticated technology is new on the market (Q#2a). In contrast, 72 percent say that they have an upgraded model or version of it. Eleven (11) percent do not know. However, most with an upgraded model claim to employ the most recent version. Seventy (70) percent of those using an upgraded version believe that they are using the most up-to-date edition of the technology (Q#2d). Twenty-six (26) percent say they are not. It is not possible to verify these assessments, nor can we determine how out-of-date the technology is among those who do not have the latest versions. Yet, their responses indicate that on balance small-business owners employ current technology, if not across-the-board, at least in an important aspect.

The generic version of the most sophisticated technology used in individual small businesses typically has been around for a few years. For example, just 6 percent report that to the best of their knowledge the most sophisticated technology that they employ has been on the market for less than a year (Q#2b). Thirty-five (35) percent say that it has been on the market for more than 10 years (14% more than 20 years). Nineteen (19) percent do not know. But if those "don't know" responses are distributed proportionally, the prior two numbers would be 7 percent and 44 percent respectively.

Small-business owners have used the technology in their enterprises for much shorter periods of time than they have been on the market. A large share of the gap between existence on the market and use can be attributed to the natural churn in small businesses. Still, 17 percent have used the basic technology, their most sophisticated, for less than one year (Q#2c). Another 29 percent have used it for more than one year, but less than six. Meanwhile, a large number have used the basic technology for years.

The most sophisticated technology these owners employ is typically also employed by competitors. Twenty-three (23) percent say that all competitors have the same technology and another 25 percent say most do (Q#2e). Two types of responses are of particular interest, however, and for different reasons. Thirteen (13) percent report that none of their competitors use the technology they do which means, if their assessments are accurate, that they are ahead of the competition; another 22 percent say just a few competitors have equivalent technology which means an advantage over most competitors. However, another 16 percent do not know. The question is whether those in the latter group do not know because of the difficulty in making the assessment, or because they have just not paid attention.

Technology Off-the-Shelf and Not

Technology can be purchased off-the-shelf, special-ordered, or constructed by the owner(s)/employees. Six percent say that they developed their most sophisticated piece of technology in-house; 92 percent obtained it on the outside (Q#2k). (The survey did not ascertain the distribution of off-the-shelf and special order.) The remainder did not answer.

Even when small employers did obtain the technology outside the firm, they often modified it. Twenty-six (26) percent of those who did not build the technology internally, modified what they brought (Q#2l). Most (72%) altered it modestly while 19 percent altered it substantially (Q#2l1). It is not clear if the modification occurred using in-house people or whether someone was brought in from the outside to do the job. Still, about one in 10 either built or substantially modified the most sophisticated technology that they now employ.

A majority purchase the technology. Sixty-five (65) percent say that they own it; 29 percent report they lease it, with the remainder not responding (Q#2m).

Cost and Operation of the Technology

The per unit cost of a technology and the amount of time it takes for the firm's most skilled employee to operate the technolo-

gy effectively are two reasonable proxies for its sophistication. Should costs be higher and employees require more time to become proficient in its operation, the technological sophistication is likely to be greater. Assuming this logic is correct, the data suggest most small businesses have relatively limited technological capabilities. For example, one in four small employers (26%) report that if they were to buy the most recent version of their most sophisticated technology today, the approximate per unit cost would be less than $1,000 (Q#2g). One can purchase a very nice computer for less than $1,000, or a single piece of reasonably common software, or perhaps a small inter-office telephone system. That is about the limit. The plurality (36%) estimate their replacement cost at between $1,000 and $5,000. This, too, purchases limited capability. Still, 11 percent of the smallest and 30 percent of the largest report the value of theirs is $25,000 or more.

These unit costs are potentially understated because so many lease their technology. Some confusion may, therefore, have resulted between purchase price of new technology and its residual value in a leasing arrangement. In addition, costs reflect the dominance of computers and computer software, in contrast to computer-driven machinery, equipment, or vehicles, let alone other technologies. Computers effectively represent the relatively inexpensive brain compared to the relatively more expensive muscle that is part of computer-driven equipment/machinery.

The employee skills proxy presents a similar perspective. The skills necessary to use the technology proficiently will typically be acquired by the business's most skilled person in less than one month's time. One-third (32%) report proficiency in less than one week (Q#2h). Another 28 percent say the learning curve reaches proficiency between one week and one month. Still, another 28 percent need more than one month. Since many employees qualifying for the estimate will already have had some training or experience on a similar technology, the time frames are more compressed than if the individual would have been totally unfamiliar with the technology. That, and the fact the question refers to the most skilled person, means the estimates are low for the average person having little or no background.

A comparatively large proportion of the workforce appears to use a firm's most sophisticated technology. While just one employee uses it in 20 percent of small businesses, single users are confined almost exclusively to the very smallest (Q#2i). However, it appears that all or nearly all employees use it in a substantial number of firms. Frequent use is not strange given that computers and computer software are so often the technology cited as the most sophisticated.

A substantial majority employ few copies of their most sophisticated technology. Forty-one (41) percent say that they have only one, though those employing fewer than 10 people are about 10 percentage points more likely to do so than larger employers (Q#2f). Fifteen (15) percent employ two and another 10 percent employ three. Just 7 percent say they have 10 or more copies of the technology; most of those are concentrated in firms employing more than 20 people.

Replacing The Technology

Most believe that their most sophisticated technology has a limited shelf-life and there will be a need to update reasonably soon. Eighteen (18) percent report that they need to replace this piece of technology yet this year (Q#2j). Another 48 percent calculate that theirs will last another one to five years while 13 percent calculate theirs will last even longer. Meanwhile, one in 10 think the most sophisticated technology they use will last indefinitely and 11 percent do not know. Since owners may have employed this piece of technology for several years already, these figures do not indicate how quickly small-business owners turn it over. Still, it appears that regular upgrading is common.

The primary reason that small employers will replace their current most sophisticated technology is because they want an upgrade; they want a more advanced version (63%) (Q#2j1). Just 24 percent say that they will replace theirs because it is just physically wearing out. One likely cause for the reasons in the distribution for replacement to be skewed is the relative importance of software. Software does not

wear out for all intents and purposes; it becomes obsolete. If one therefore, separates hardware, including physical equipment, from software and focuses on the former, physical deterioration becomes almost as important a reason to change as the desire for something new.

Recent Technology Upgrades

Productive capacity can be upgraded either by upgrading existing technology (including processes) or adding to it. Forty-five (45) percent of small employers report that they used new or significantly improved, processes, equipment or software in their businesses during the prior year (Q#1). Of this number, 61 percent indicate that they introduced more than a single major change in productive capacity (Q#1a). The result is 28 percent of the total population saying that they upgraded in more than one way.

Employee-size of firm is related to change and frequency of change, but not as tightly as might have been anticipated. Forty-three (43) percent of the smallest report upgrading as did 55 percent of the largest. In addition, the smallest upgraded more than once in 26 percent of cases compared to 38 percent among the largest. A recurrent theme is the significant core of very small enterprises that bring in new things beside the substantial body of larger ones that appear to be doing little in this regard.

The upgrade (or most important upgrade among those with more than one) is most frequently computer software. Half (51%) report that a piece of software represents their principal enhancement in the last year (Q#1b). Another 34 percent indicate the change was equipment of some type. (The survey did not distinguish between computer hardware and equipment of other kinds.) Just 13 percent cite a process as their most important advance.

In most instances, the upgrade (or most important upgrade) does not involve the latest technology available. Sixty-nine (69) percent report that the change was new to the business (not to the market) while 29 percent say that theirs was new to the market (Q#1c). Thus, if most of these technologies were not well-tested by others in the market, they give that appearance and match the earlier description of conditions under which small-business owners upgrade.

Technology upgrades allow businesses to improve their relative competitive position. Thirty (30) percent believe that the change (most important change) they made moved them ahead of the competition (Q#1d). Another 48 percent think their upgrade(s) kept them abreast of the competition and 18 percent saw it catching them up. These assessments are only from the 42 percent who improved their productive capacity in the last year. They do not include assessments from those who failed to upgrade. Since virtually all small-business owners believe they are as technologically advanced or more advanced than their competitors, several of those who failed to substantially upgrade their productive capacity in the last year also feel confident in their technological capacity.

Small-business owners obtain their ideas for the (most significant) upgrade from a variety of sources. Just 15 percent say that they developed the idea themselves (Q#1e); the idea was theirs. Meanwhile, over 60 percent found the idea elsewhere. Of that number, 23 percentage points copied it directly, but 39 percentage points upgraded or modified what they found elsewhere. It cannot be ascertained if these upgrades of modifications are modest or substantial. Twenty-four (24) percent do not know where theirs originated.

Final Comments

Computers and computer software dominate the most sophisticated technology that the lion's share of small businesses employ today. To a large extent, therefore, the state of technology in small business is really the state of computerization. Even small-business owners who identify items like vehicles or telecommunications as their most sophisticated technology indirectly also cite computers considering the importance of computers to their operation. Since relatively few of the identified technologies do not incorporate computer technology in one form or another and since some computer technology is free standing while some is incorporated into larger equipment/machines, comparisons across technologies prove particularly difficult.

Still, difficult comparisons cannot obscure a few important points. First, a large proportion of employees in most businesses

use the firm's most sophisticated technology. In few instances does the technology appear to be the occupational property of a few people. Broad use implies, the technology is an integral part of the firm's operation. Second, per unit costs of these technologies are modest. That means more copies can be obtained without financially stressing a firm. However, it implies that the technologies are either stand alone, i.e., not driving a larger machine, reasonably mundane, or both. Third, while many businesses upgrade annually or, at least, periodically, the technologies they add or upgrade appear to be well-known. A few enterprises do create their own and another small group substantially modify/customize what they obtain. Most of what small-business owners procure, however, appears to be off-the-shelf.

Industry appears more important to the employment of technology than size-of-business. Competition is the likely reason for this situation. One tends to compete against others in the industry more than others of like size. Still, at least as measured by the most common office technologies, smaller, small firms are likely less technologically advanced than larger, small enterprises.

While almost half indicate that they have upgraded their technological capacities in the last year, over half have not, including almost half of the largest smalls, and many in the industries most rapidly changing. Yet, virtually all believe that they are at least technologically abreast of their primary competition. That will be true in some cases, but it is not plausible for all. Technology is, of course, not the only factor on which small businesses compete. But unless small-business owners who do not upgrade, but believe they are technologically abreast, have a very large competitive edge in non-technological factors, they could experience notable difficulties.

The State of Technology

(Please review notes at the table's end.)

	Employee Size of Firm			
	1-9 emp	10-19 emp	20-249 emp	All Firms
Let's talk about the technology you use in your business.				
1. In the last year, did your business use new, or significantly improved, processes, equipment or software to produce or distribute its products or services?				
1. Yes	43.4%	48.8%	54.5%	45.1%
2. No	55.5	51.2	45.5	54.1
3. (DK/Refuse)	1.1	—	—	0.9
Total	100.0%	100.0%	100.0%	100.0%
N	352	201	200	753
1a. Was it one new, or significantly improved process, piece of equipment, or piece of software, or was it more than one? (If "Yes" in Q#1.)				
1. One	40.4%	28.6%	32.6%	38.1%
2. More than one	59.6	69.0	67.4	61.1
3. (DK/Refuse)	—	2.4	—	0.3
Total	100.0%	100.0%	100.0%	100.0%
N	149	96	108	353
1b. (Think of the single most important new, or significantly improved, process, piece of equipment, or piece of software introduced into your business in the last year.) (If "more than one" in Q#1a".) Was it a process, a piece of equipment, or a piece of software?				
1. Process	13.7%	9.5%	11.9%	13.0%
2. Piece of equipment	34.3	42.9	26.2	34.4
3. Piece of software	50.6	42.9	61.9	51.0
4. (DK/Refuse)	1.5	4.8	—	1.7
Total	100.0%	100.0%	100.0%	100.0%
N	149	96	108	353
1c. Was this new or significantly improved (process/piece of equipment/ piece of software) new on the market or just new to your business?				
1. Market	29.2%	27.5%	31.7%	29.3%
2. Your business	68.9	70.0	65.9	68.7
3. (DK/Refuse)	1.9	2.5	2.4	2.0
Total	100.0%	100.0%	100.0%	100.0%
N	147	92	106	345

	Employee Size of Firm			
	1-9 emp	10-19 emp	20-249 emp	All Firms

1d. Did this new (process/piece of equipment/piece of software) put you ahead of the competition, allow you to stay abreast of the competition, or let you catch up to the competition?

1. Ahead of the competition	28.0%	42.5%	34.1%	30.4%
2. Abreast of the competition	47.4	42.5	53.7	47.6
3. Catch up to the competition	20.1	12.5	9.8	18.1
4. (DK/Refuse)	4.5	2.5	2.4	4.1
Total	100.0%	100.0%	100.0%	100.0%
N	147	92	106	345

1e. Where did you get the idea for this (process/piece of equipment/piece of software)? Did you develop it from scratch yourself, upgrade or modify it based on what you saw somewhere else, or directly copy an idea you saw somewhere else?

1. Developed new	14.6%	12.5%	16.3%	14.6%
2. Upgraded or modified	35.6	50.0	46.5	38.6
3. Copied	24.3	15.0	18.6	22.6
4. (DK/Refuse)	25.4	22.5	18.7	24.3
Total	100.0%	100.0%	100.0%	100.0%
N	147	92	106	345

Please think of the most sophisticated piece of technology that you use in your business today. The technology could be a machine, a device of some type, a piece of software, or something like that.

2. What is the name of this technology? What do you call it?

_____

2a. Is this technology brand new on the market, or is it an upgrade from a prior model or version?

1. Brand new	18.5%	10.7%	14.1%	17.2%
2. Upgraded model or version	69.4	79.8	82.1	71.8
3. (DK/Refuse)	12.1	9.5	3.8	11.0
Total	100.0%	100.0%	100.0%	100.0%
N	352	201	200	753

	Employee Size of Firm			
	1-9 emp	10-19 emp	20-249 emp	All Firms

2b. (Starting with the first model or version,) [If "Upgraded model or version" in Q#2a.] To the best of your knowledge, how long has the basic technology been on the market?

1. One year or less	5.7%	6.0%	3.8%	5.6%
2. 1.1 to five years	20.7	21.7	23.1	21.1
3. 5.1 to 10 years	18.2	21.7	20.5	18.8
4. 10.1 to 20 years	21.7	19.3	21.8	21.4
5. Over 20 years	13.4	14.5	15.4	13.7
6. (DK/Refuse)	20.3	16.9	15.4	19.4
Total	100.0%	100.0%	100.0%	100.0%
N	352	201	200	753

2c. How long have you used this basic technology in your business?

1. One year or less	16.9%	14.5%	18.2%	16.8%
2. 1.1 to five years	29.7	28.9	27.3	29.4
3. 5.1 to 10 years	23.8	21.7	23.4	23.5
4. 10.1 to 20 years	17.4	22.9	19.5	18.2
5. Over 20 years	7.2	8.4	7.8	7.4
6. (DK/Refuse)	5.1	3.6	3.9	4.8
Total	100.0%	100.0%	100.0%	100.0%
N	352	201	200	753

2d. To the best of your knowledge, is the model or version you are using the most up-to-date?

1. Yes	70.0%	65.1%	75.6%	70.1%
2. No	25.5	30.1	23.1	25.8
3. (DK/Refuse)	4.4	4.8	1.3	4.2
Total	100.0%	100.0%	100.0%	100.0%
N	352	201	200	753

2e. Do all, most, a few, or none of your competitors use any model or version of the technology?

1. All	25.2%	19.0%	12.8%	23.3%
2. Most	23.9	28.6	32.1	25.2
3. A few	20.4	29.8	30.8	22.4
4. None	14.0	8.3	12.8	13.3
5. (DK/Refuse)	16.4	14.3	11.5	15.7
Total	100.0%	100.0%	100.0%	100.0%
N	352	201	200	753

	Employee Size of Firm			
	1-9 emp	10-19 emp	20-249 emp	All Firms
2f. Approximately, how many pieces or copies of the technology, including all models or versions do you currently use?				
1. One	42.7%	33.3%	36.7%	41.1%
2. Two	15.1	16.7	11.4	14.9
3. Three	9.7	8.3	8.9	9.5
4. 4 - 5	12.3	10.7	7.6	11.6
5. 6 - 9	4.8	11.9	8.9	5.9
6. 10 or more	5.3	8.3	17.7	6.8
7. Not applicable	1.4	3.6	3.8	1.9
8. (DK/Refuse)	8.8	7.1	5.1	8.4
Total	100.0%	100.0%	100.0%	100.0%
N	352	201	200	753
2g. If you were to buy the most recent version of the technology today, what would be the approximate PER UNIT cost?				
1. < $1,000	27.6%	19.8%	15.6%	25.6%
2. $1,000 - $4,999	39.0	22.2	24.7	35.9
3. $5,000 - $24,999	14.6	25.9	24.7	16.8
4. $25,000 or more	11.2	25.9	29.9	14.6
5. Can't Replace	1.6	2.5	1.3	1.7
6. (DK/Refuse)	6.0	3.7	3.9	5.3
Total	100.0%	100.0%	100.0%	100.0%
N	352	201	200	753
2h. How long did it take the most skilled person using the technology to become proficient using it?				
1. < One week	33.0%	33.3%	24.4%	32.2%
2. One week to one month	27.3	29.8	35.9	28.4
3. 1.1 to six months	19.9	16.7	21.8	19.8
4. More than six months	7.8	8.3	7.7	7.9
5. Still not proficient	5.1	3.6	3.9	4.8
6. (DK/Refuse)	6.9	8.3	6.5	7.0
Total	100.0%	100.0%	100.0%	100.0%
N	352	201	200	753

	Employee Size of Firm			
	1-9 emp	10-19 emp	20-249 emp	All Firms
2i. How many employees use the technology?				
1. One	23.9%	6.0%	3.8%	20.0%
2. Two	25.8	10.7	9.0	25.6
3. 3 - 4	27.8	16.7	11.5	25.0
4. 5 - 9	17.2	33.3	23.1	19.5
5. 10 -19	1.6	27.4	23.1	5.8
6. 20 or more	—	—	26.9	3.3
7. (DK/Refuse)	3.7	6.0	2.6	3.8
Total	100.0%	100.0%	100.0%	100.0%
N	352	201	200	753
2j. How much longer do you think you will be able to use the most sophisticated technology you currently operate before replacing it?				
1. One year or less	17.9%	22.9%	18.2%	18.4%
2. 1.1 to five years	48.4	43.4	49.4	48.0
3. 5.1 to 10 years	8.3	15.7	13.0	9.5
4. More than 10 years	3.2	3.6	2.6	3.2
5. Indefinitely	10.2	6.0	9.1	9.7
6. (DK/Refuse)	12.0	8.4	7.8	11.2
Total	100.0%	100.0%	100.0%	100.0%
N	352	201	200	753
2j1. Will you replace the technology primarily because: ?				
1. You want more advanced technology	62.7%	61.2%	70.5%	63.3%
2. It is physically just wearing out	24.7	23.5	19.2	24.1
3. (Other)	2.7	2.4	1.3	2.5
4. (DK/Refuse)	9.8	12.9	9.0	10.1
Total	100.0%	100.0%	100.0%	100.0%
N	352	201	200	753
2k. Did your firm develop this technology, OR did someone else develop it?				
1. Your firm	5.1%	7.2%	8.9%	5.7%
2. Someone else	92.3	91.6	89.9	92.0
3. (DK/Refuse)	2.6	1.2	1.3	2.3
Total	100.0%	100.0%	100.0%	100.0%
N	352	201	200	753

	Employee Size of Firm			
	1-9 emp	10-19 emp	20-249 emp	All Firms

2l. Did you modify the technology to meet your needs once you obtained it, OR did you leave it pretty much as you got it? (If NOT "Your firm" in Q#2k.)

1. Modified	24.7%	32.9%	33.3%	26.4%
2. Left as got it	73.6	65.8	65.3	72.0
3. (DK/Refuse)	1.7	1.3	1.4	1.6
Total	100.0%	100.0%	100.0%	100.0%
N	335	185	184	704

2l1. Did you substantially modify or modestly modify the technology? (If"Modified" in Q#2l.)

1. Substantially	21.1%	16.0%	12.5%	19.4%
2. Modestly	73.6	65.8	65.3	72.0
3. (DK/Refuse)	1.7	1.3	1.4	1.6
Total	100.0%	100.0%	100.0%	100.0%
N	81	60	62	203

2m. Do you own the technology, OR do you lease or license it?

1. Own	65.7%	60.7%	58.4%	64.5%
2. Lease/license	27.4	33.3	36.4	28.9
3. (DK/Refuse)	6.8	6.0	5.2	6.6
Total	100.0%	100.0%	100.0%	100.0%
N	352	201	200	753

3. Do you believe that you have an overall technological advantage over your primary competitors, a technological disadvantage with them, or no technological advantage exists one way or another?

1. Advantage	36.0%	35.7%	39.2%	36.3%
2. Disadvantage	2.4	2.4	2.5	2.4
3. No advantage	57.7	58.3	57.0	57.7
4. (DK/Refuse)	3.8	3.6	1.3	3.5
Total	100.0%	100.0%	100.0%	100.0%
N	352	201	200	753

4. Is the technology in your industry changing: ?

1. Very rapidly	25.0%	26.5%	26.9%	25.4%
2. Somewhat rapidly	34.9	36.1	41.0	35.7
3. Not too rapidly	26.5	27.7	28.2	26.8
4. Not at all rapidly	11.3	8.4	3.8	10.3
5. (DK/Refuse)	2.2	1.2	—	1.9
Total	100.0%	100.0%	100.0%	100.0%
N	352	201	200	753

	Employee Size of Firm			
	1-9 emp	10-19 emp	20-249 emp	All Firms
5. When it comes to new technologies in your business, how would you characterize yourself?				
1. You attempt to be the first to try new things	13.7%	8.4%	11.7%	13.0%
2. When a new idea shows promise, you jump on before everyone else does	14.4	16.9	18.2	15.0
3. When name brands come out with it, you are ready to adopt it	14.8	12.0	15.6	14.6
4. You use what's widely accepted and understood	20.9	30.1	27.3	22.5
5. If the current stuff works, why mess with it	34.6	30.1	26.0	33.3
6. (DK/Refused)	0.6	—	—	0.5
Total	100.0%	100.0%	100.0%	100.0%
N	352	201	200	753
6. Is your business connected to the Internet?				
1. Yes	74.4%	83.3%	89.7%	76.8%
2. No	25.6	16.7	10.3	23.2
3. (DK/Refuse)	—	—	—	—
Total	100.0%	100.0%	100.0%	100.0%
N	352	201	200	753
6a. Is your connection to the Internet high-speed, which could be DSL, cable, satellite, etc., or is it a dial-up modem? (If "Yes" in Q#6.)				
1. High-speed	78.6%	87.1%	88.6%	80.7%
2. Dial-up	18.8	10.0	10.0	16.8
3. (DK/Refuse)	2.5	2.9	1.4	0.3
Total	100.0%	100.0%	100.0%	100.0%
N	262	165	179	606
7. Does your business have it's own Web site?				
1. Yes	48.6%	69.0%	74.4%	53.4%
2. No	51.4	31.0	25.6	46.6
3. (DK/Refuse)	—	—	—	—
Total	100.0%	100.0%	100.0%	100.0%
N	352	201	200	753

	Employee Size of Firm			
	1-9 emp	10-19 emp	20-249 emp	All Firms
7a. Is your Web site interactive in the sense that customers can reach you directly through it, place orders, or receive responses? (If "Yes" in Q#6b.)				
1. Yes	71.5%	74.1%	73.7%	72.1%
2. No	27.9	24.1	26.3	27.1
3. (DK/Refuse)	0.7	—	—	0.5
Total	100.0%	100.0%	100.0%	100.0%
N	170	134	149	453

Demographics

D1. Which best describes your position in the business?

	Employee Size of Firm 1-9 emp	10-19 emp	20-249 emp	All Firms
1. Owner/manager	84.1%	75.0%	70.5%	81.7%
2. Owner but NOT manager	5.4	7.1	6.4	5.7
3. Manager but NOT owner	10.5	17.9	23.1	12.5
4. (DK/Refuse)	—	—	—	—
Total	100.0%	100.0%	100.0%	100.0%
N	352	201	200	753

D2. Is your primary business activity: (NAICs code)

1. Agriculture, forestry, fishing	2.9%	1.2%	2.6%	2.7%
2. Construction	10.4	11.0	10.3	10.4
3. Manufacturing, mining	4.9	8.5	14.1	6.2
4. Wholesale trade	4.5	4.9	6.4	4.7
5. Retail trade	14.0	13.4	10.3	13.6
6. Transportation and warehousing	2.4	2.4	5.1	2.7
7. Information	2.6	2.4	2.6	2.5
8. Finance and insurance	4.9	—	2.6	4.2
9. Real estate and rental leasing	5.3	1.2	2.6	4.6
10. Professional/scientific/ technical services	11.0	15.9	9.0	11.3
11. Adm. support/waste management services	3.8	3.7	2.6	3.7
12. Educational services	0.3	1.2	—	0.4
13. Health care and social assistance	5.9	4.9	7.7	6.0
14. Arts, entertainment, or recreation	1.9	1.2	1.3	1.8
15. Accommodations or food service	4.6	13.4	12.8	6.4
16. Other service, incl. repair, personal care	13.1	7.3	6.4	11.8
17. (Other)	6.5	4.9	3.8	6.1
18. (DK/Refuse)	1.0	2.4	—	1.0
Total	100.0%	100.0%	100.0%	100.0%
N	352	201	200	753

	Employee Size of Firm			
	1-9 emp	10-19 emp	20-249 emp	All Firms
D3. Over the last two years, have your real volume sales:				
1. Increased by 30 percent or more	19.7%	19.0%	17.9%	19.5%
2. Increased by 20 to 29 percent	15.9	22.6	17.9	16.8
3. Increased by 10 to 19 percent	23.2	29.8	28.2	24.4
4. Changed less than 10 percent one way or the other	25.2	16.7	26.9	24.4
5. Decreased by 10 percent or more	11.5	6.0	6.4	10.4
6. (DK/Refuse)	4.4	6.0	2.6	4.5
Total	100.0%	100.0%	100.0%	100.0%
N	352	201	200	753
D4. How long have you owned or operated this business?				
1. < 6 years	24.3%	17.1%	16.9%	22.7%
2. 6-10 years	17.0	20.7	15.6	17.3
3. 11-20 years	27.9	26.8	28.6	27.8
4. 21-30 years	19.3	17.1	19.5	19.1
5. 31 years+	9.9	15.9	19.5	11.5
6. (DK/Refuse)	1.7	2.4	—	1.6
Total	100.0%	100.0%	100.0%	100.0%
N	352	201	200	753
D5. What is your highest level of formal education?				
1. Did not complete high school	2.1%	1.2%	2.5%	2.0%
2. High school diploma/GED	9.3	16.7	10.1	18.1
3. Some college or an associates degree	24.2	21.4	25.3	24.1
4. Vocational or technical school degree	4.5	3.6	5.1	4.4
5. College diploma	29.2	35.7	30.4	30.0
6. Advanced or professional degree	19.6	20.2	26.6	20.4
7. (DK/Refuse)	1.1	1.2	—	1.0
Total	100.0%	100.0%	100.0%	100.0%
N	352	201	200	753

	Employee Size of Firm			
	1-9 emp	10-19 emp	20-249 emp	All Firms
D6. Please tell me your age.				
1. <25	1.8%	1.2%	1.3%	1.6%
2. 25-34	6.4	7.1	5.1	6.3
3. 35-44	15.1	21.4	17.9	16.1
4. 45-54	32.0	36.9	33.3	32.7
5. 55-64	30.7	21.4	29.5	29.6
6. 65+	11.9	10.7	12.8	11.9
7. (DK/Refuse)	2.1	1.2	—	1.8
Total	100.0%	100.0%	100.0%	100.0%
N	352	201	200	753
D7. What is the zip code of your business?				
1. East (zips 010-219)	16.6%	14.5%	19.5%	16.6%
2. South (zips 220-427)	21.0	21.7	20.8	21.1
3. Mid-West (zips 430-567, 600-658)	22.2	21.7	26.0	22.5
4. Central (zips 570-599, 660-898)	24.3	25.3	24.7	24.4
5. West (zips 900-999)	15.9	16.9	9.1	15.3
6. (DK/Refuse)	—	—	—	—
Total	100.0%	100.0%	100.0%	100.0%
N	352	201	200	753
D8. Urbanization (Derived from the zip code.)				
1. Highly Urban	10.4%	10.6%	13.0%	10.6%
2. Urban	20.9	21.2	15.6	20.4
3. Fringe Urban	19.5	23.5	28.6	20.8
4. Small Cities/Towns	20.9	15.3	19.5	20.2
5. Rural	20.6	22.4	20.8	20.8
6. (DK/Refuse)	7.8	7.1	2.6	7.2
Total	100.0%	100.0%	100.0%	100.0%
N	352	201	200	753
D9. Sex				
1. Male	79.9%	81.0%	88.5%	80.9%
2. Female	20.1	19.0	11.5	19.1
Total	100.0%	100.0%	100.0%	100.0%
N	352	201	200	753

Data Collection Methods

The data for this survey report were collected for the NFIB Research Foundation by the executive interviewing group of The Gallup Organization. The interviews for this edition of the *Poll* were conducted between October 20 and December 2, 2005 from a sample of small employers. "Small employer" was defined for purposes of this survey as a business owner employing no less than one individual in addition to the owner(s) and no more than 249.

The sampling frame used for the survey was drawn at the Foundation's direction from the files of the Dun & Bradstreet Corporation, an imperfect file but the best currently available for public use. A random stratified sample design was employed to compensate for the highly skewed distribution of small-business owners by employee size of firm (Table A1). Almost 60 percent of employers in the United States employ just one to four people meaning that a random sample would yield comparatively few larger small employers to interview. Since size within the small-business population is often an important differentiating variable, it is important that an adequate number of interviews be conducted among those employing more than 10 people. The interview quotas established to achieve these added interviews from larger, small-business owners were arbitrary but adequate to allow independent examination of the 10-19 and 20-249 employee size classes as well as the 1-9 employee size group.

Table A1

Sample Composition Under Varying Scenarios

	Expected from Random Sample*		Obtained from Stratified Random Sample			
Employee Size of Firm	Interviews Expected	Percent Distribution	Interview Quotas	Percent Distribution	Completed Interviews	Percent Distribution
1-9	593	79	350	47	352	47
10-19	82	11	200	27	201	27
20-249	75	10	200	27	200	27
All Firms	750	100	750	101	753	101

* *Sample universe developed from special runs supplied the NFIB Research Foundation by the Bureau of the Census (1997 data).*

Continued from page 18

Table Notes

1. All percentages appearing are based on **weighted** data.
2. All "Ns" appearing are based on **unweighted** data.
3. Data are not presented where there are fewer than 50 unweighted cases.
4. ( )s around an answer indicate a volunteered response.

WARNING – When reviewing the table, care should be taken to distinguish between the percentage of the population and the percentage of those asked a particular question. Not every respondent was asked every question. All percentages appearing on the table use the number asked the question as the denominator.

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