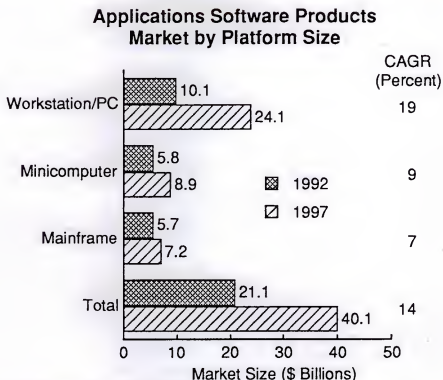


Exhibit 2



Note: Numbers may not add due to rounding

Source: INPUT

Turnkey Systems/VARs

While the future looks bright for applications software products, growth in the turnkey systems market is projected at a more modest 8% for 1992-1997, as was illustrated in Exhibit 1. Turnkey products continue to offer advantages by addressing very specialized requirements. However, buyers are reluctant to be tied to a specific hardware product for individual applications solutions. Customers look to leverage existing hardware investments and choose solutions that can be integrated on these platforms. Even the turnkey vendors are beginning to cut ties with specific hardware products and offer their capabilities on a variety of platforms.

As described below, several factors have inhibited growth in this segment:

- *Tight Budgets*—Expenditures on turnkey systems that have been negatively affected by IS budget constraints. Companies have been reluctant to spend dollars on hardware, which is a major piece of the turnkey systems purchase. Also, most turnkey vendors and value-added resellers (VARs) sell primarily to small and medium-sized companies, which are typically the first to cut back on capital expenditures when economic times are hard.
- *Unbundling of Hardware/Software*—Because hardware has become a commodity, buyers want to shop around for the best deal available and purchase software separately. At the same time, the turnkey vendor/VAR finds that because margins are so low, there are fewer benefits to be gained from the hardware side of their business. Turnkey vendors do not want to limit their market to specific hardware, particularly because users are looking for multivendor solutions.

- **Competition**—As hardware becomes a less profitable part of the package, turnkey vendors are turning their attention to the software and professional services part of their field. This puts them in head-to-head competition with systems integrators in these delivery modes. Many turnkey vendors find that they need to diversify into other, higher growth information technology areas in order to survive.

Despite the negative forces discussed above, there are a number of counteractive factors driving continued growth for turnkey systems in certain areas, as discussed below:

- **Solutions Selling**—The end user is becoming more involved in purchasing decisions. This buyer focuses on what he wants to achieve from a business perspective, and expects the vendor to provide an “easy to use” solution for this need. Often this may require integration of a variety of products, customization, and/or user support. Turnkey vendors are equipped to seize this market opportunity due to their expertise in packaging hardware, software, and professional services to address specific requirements.
- **Specialized Needs**—Many buyers believe that they have unique needs that cannot be met today by applications solutions. Yet they recognize the need to phase out in-house development. Turnkey vendors are well positioned to address specialized needs. They have traditionally focused their efforts on specific vertical markets and thus have gained some knowledge about their targeted industries. This knowledge, coupled with their experience in putting together solutions as part of their offerings, could place them in a good position to address unique needs.
- **New Technologies**—The ongoing technology changes toward downsizing and distributed processing can be beneficial to the turnkey provider in the same way that the software vendor benefits. New technology creates a demand for new products and services, thereby increasing the overall potential market.

More powerful and smaller hardware platforms facilitate a deeper penetration for applications solutions within companies of various size. The development of new applications software products in response to new technologies will promote potential sales through the turnkey systems/VAR channel.

- **Hardware Manufacturers' Reliance on VARs**—Equipment vendors have been bolstering their indirect channels' recruitment efforts and programs. As the cost of maintaining a direct sales forces increases, and hardware platforms get smaller, equipment vendors need viable alternative channels for their new generations of hardware. Vendors also need to rely more on the VAR/turnkey channel to provide support. Exhibit 3 on page 5 reflects the continuing trends in the turnkey systems submodes.

Professional services represents the fastest growing submode of turnkey systems. Therefore, it is the greatest opportunity for turnkey vendors/VARs to increase their business. Applications software is also a key area with expected growth of 10% over the next five years. Equipment and systems software have the lowest rate of growth.

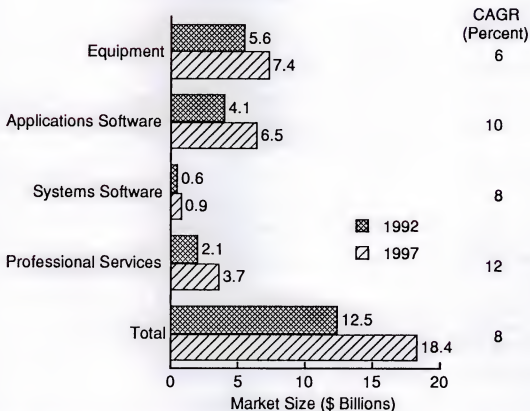
In the future, turnkey systems vendors/VARs will need to focus more on the services and software side of their business to survive. Likewise, applications software vendors need to change their orientation from selling a product, to selling a solution to address the needs of the end user.

It will be increasingly difficult to differentiate turnkey systems/VARs, from applications software vendors, systems integrators, and professional services providers, as vendors in each of these delivery modes strive to address the needs of their customers.

For a complete analysis of the national applications solutions market, the reader is referred to INPUT's report, *U.S. Applications Software Products and Turnkey Systems Markets, 1992-1997*.

Exhibit 3

Turnkey Systems Market by Submode, 1992-1997



Note: Numbers may not add due to rounding

Source: INPUT

This Research Bulletin is issued as part of INPUT's Information Services Market Analysis Program. If you have questions or comments on this bulletin, please call your local INPUT organization or R. Dennis Wayson at INPUT, 1280 Villa Street, Mountain View, CA 94041-1194 (415) 961-3300

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A Publication from INPUT's U.S. Information Services Market Analysis Program

U.S. Applications Solutions Market Forecast, 1992-1997

NOTE: This Research Bulletin is published as a part of INPUT's U.S. market analysis and planning report. The material that follows is drawn from INPUT's annual assessment of the applications solutions market within the United States. The full report, *U.S. Applications Software Products and Turnkey Systems Markets, 1992-1997*, is now available.

User expenditures on applications software products will reach \$40 billion in 1997, a compound annual growth rate (CAGR) of 14%. The market for turnkey systems will reach \$18 billion by 1997, a CAGR of 8%. Exhibit 1 summarizes this data.

Despite the economic downturn and decreasing hardware sales, the applications solutions market has enjoyed faster growth in the past year than most other segments of the economy as a whole. While the 20% growth rates of the late 1980s have dropped off due to the maturity of certain segments, several factors are expected to maintain double-digit growth in the next five years.

Technological Developments

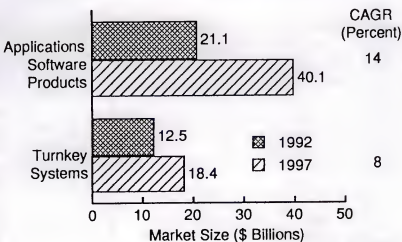
One of the most significant technology trends occurring today is the move toward downsizing. As companies move applications from large host systems to distributed processing environments, their applications needs are changing.

Programs that formerly were host-based will be acquired or rewritten for PC/LANs and midrange systems. The market for client/server products is just beginning to open up. The significance of the potential market for applications increases as more products become available.

Graphical user interfaces (GUIs) have already contributed to increased expenditures on applications software products and are expected to spur continued growth in the next several years.

Exhibit 1

Applications Software Products and Turnkey Systems Market, 1992-1997



Source: INPUT

As the emphasis on UNIX and open systems grows, along with developments in areas such as multimedia applications, the demand for new applications software will also rise.

Decreased Internal Development

The internal development of applications is expected to decrease significantly in the next five years. As IS budgets shrink, companies can no longer maintain a large programming staff. Users are unwilling to tolerate lengthy backlogs for solutions to business problems that need to be addressed today in order to stay competitive. Also, the shortage of individuals with technical skills contributes to the move toward buying applications solutions rather than developing them.

Upgrades/Licensing

Although the market for new products is expected to grow, a significant portion of applications software expenditures will be focused on upgrades and ongoing licensing. Some segments of the market, such as spreadsheets and word processing software, are mature. However, there will be ongoing needs to upgrade the capabilities of these products. Licensing agreements assure a steady rate of spending even in these more mature product areas.

Economic Considerations

Cost reduction is a major concern to businesses today. The selective installation of new applications software products is viewed as a means of minimizing corporate costs and improving productivity. Also, corporate restructuring as a result of cutbacks or acquisitions has created a need for new applications software products.

The Changing Buyer

INPUT believes that an important development contributing to growth in the applications software market relates to the changing buyer. Traditionally, applications software was purchased by IS professionals who understood the technical side of things. Today the end user is becoming a more important factor. INPUT expects this trend to continue. As a result, the focus will be on acquiring off-the-shelf solutions that are easy to use and maintain. The user does not want to worry about operating systems, network management, or application integrity. Exhibit 2 shows user expenditures.

As downsizing and client/server architecture are implemented, growth will continue to be strong at the PC/workstation level. This growth is also fueled by the development of more powerful microprocessors, which allow the development of more sophisticated software.

Minicomputer application software will also profit, although to a lesser extent, from current technological trends. The minicomputer will spur growth by playing a role in certain client/server environments. Also, growth will come from customers who are rounding out the applications software product suites for AS/400 equipment and similar platforms. The more modest 9% CAGR projected for software on this platform emphasizes the move away from large-scale systems and toward PC/workstations.

Growth at the mainframe level is mostly a result of price increases and expenditures on large-scale systems to consolidate multiple data centers. However, growth is generally expected to be modest, as users increasingly view the host as merely a data repository component of a client/server environment.