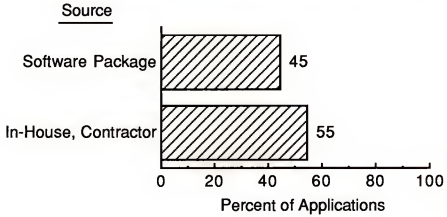
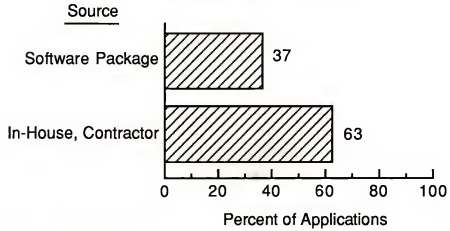
Source of Current Mission-Critical Applications



N = 190 Applications

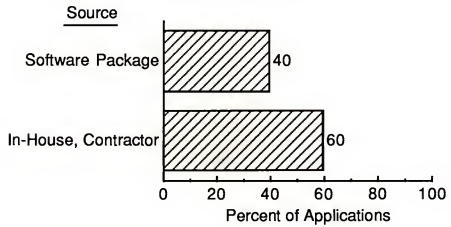
- Medium utilities much more likely to use packaged software

Source of Current Mission-Critical Applications (Large Food Processors)



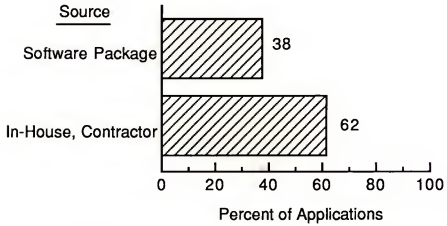
N = 46 Applications

Source of Current Mission-Critical Applications (Medium Food Processors)



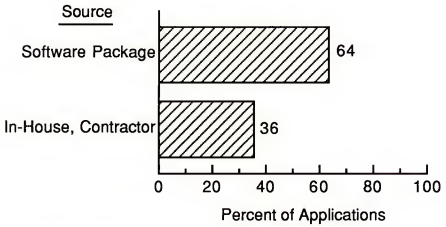
N = 40 Applications

Source of Current Mission-Critical Applications (Large Utilities)



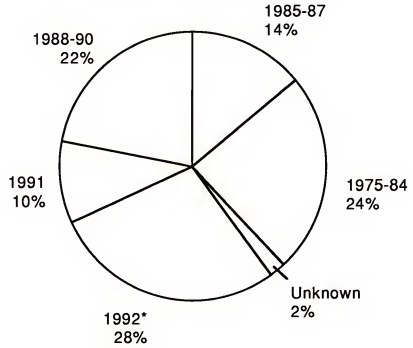
N = 45 Applications

Source of Current Mission-Critical Applications (Medium Utilities)



N = 59 Applications

Year of Installation of Current Mission-Critical Applications

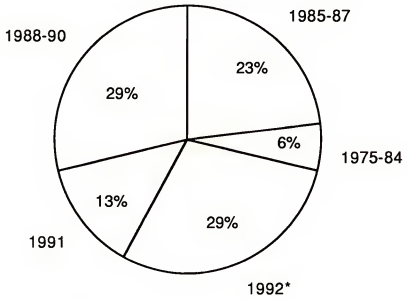


N = 190 applications

- Medium utilities have very old applications

*Includes applications close to completion

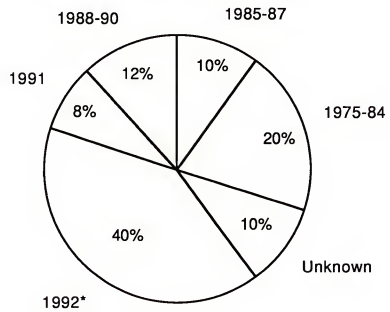
Year of Installation of Current Mission-Critical Applications (Large Food Processors)



N = 46 applications

*Includes applications close to completion

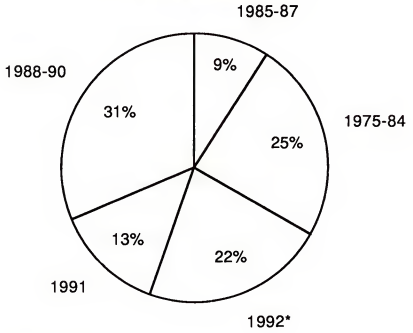
Year of Installation of Current Mission-Critical Applications (Medium Food Processors)



N = 40 applications

*Includes applications close to completion

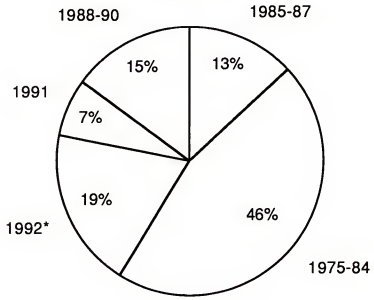
Year of Installation of Current Mission-Critical Applications (Large Utilities)



N = 45 applications

*Includes applications close to completion

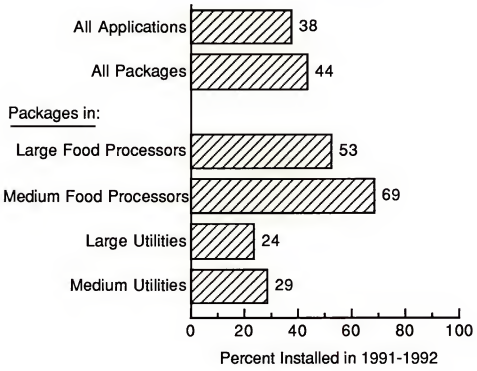
Year of Installation of Current Mission-Critical Applications (Medium Utilities)



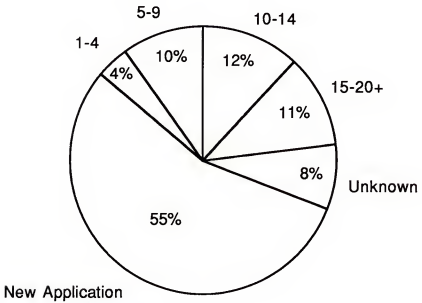
N = 59 applications

*Includes applications close to completion

Mission-Critical Applications Installed in 1991-1992: Software Packages by Segment



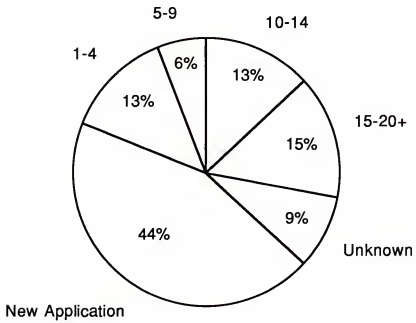
Mission-Critical Applications' Age in Years at Time of Replacement



N = 190 applications
Median = 10 years

- Over half are "new" applications
- 40% of new applications were installed since 1990

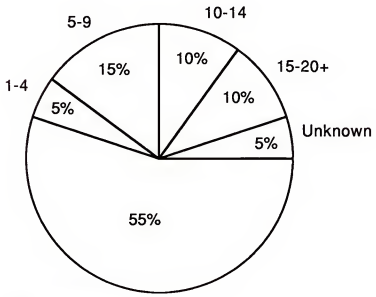
Mission-Critical Applications' Age in Years at Time of Replacement (Large Food Processors)



N = 46 applications
Median = 10 years

- 65% of new applications were installed since 1990

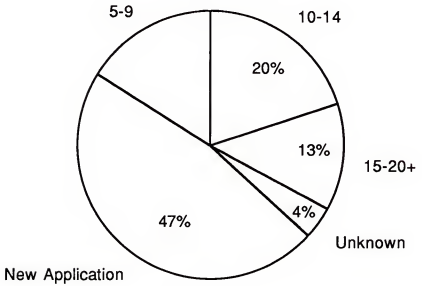
Mission-Critical Applications' Age in Years at Time of Replacement (Medium Food Processors)



N = 40 applications
Median = 9 years

- 27% of new applications were installed since 1990

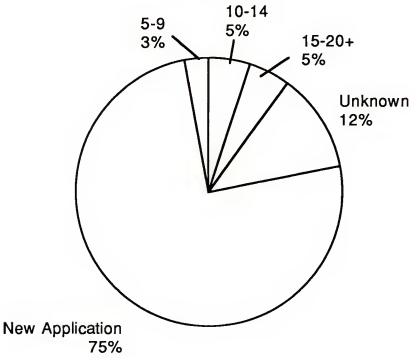
Mission-Critical Applications' Age in Years at Time of Replacement (Large Utilities)



N = 45 applications
Median = 12 years

- 48% of new applications were installed since 1990

Mission-Critical Applications' Age in Years at Time of Replacement (Medium Utilities)

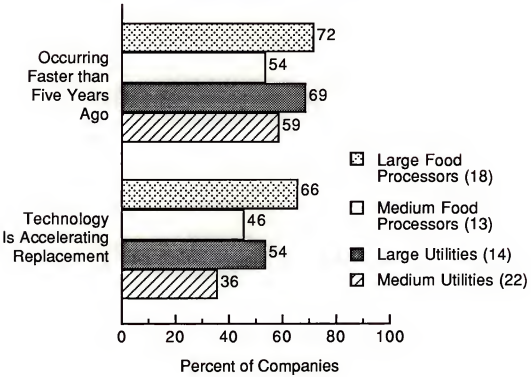


N = 59 applications
Median = 10 years

- Large proportion of "new" related to higher than average very old applications
- 20% of new applications were installed since 1990

D

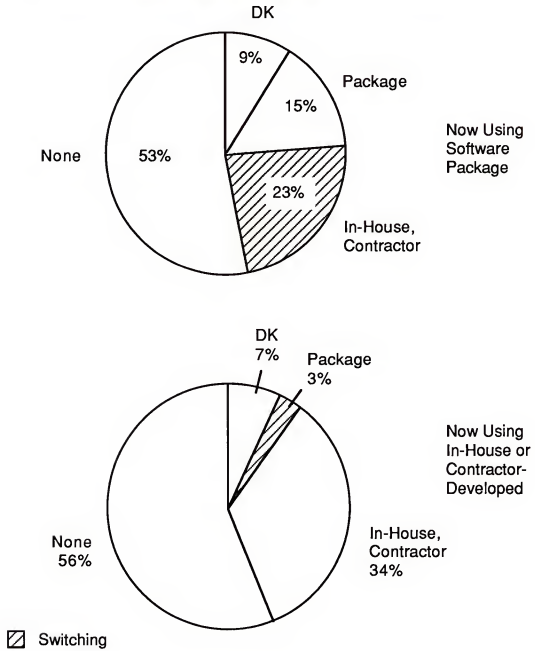
Application Replacement



N = 67 companies; number in each group in parentheses

- Increased rate generally repeated; somewhat higher in large companies
- Technology more of an accelerant in larger companies

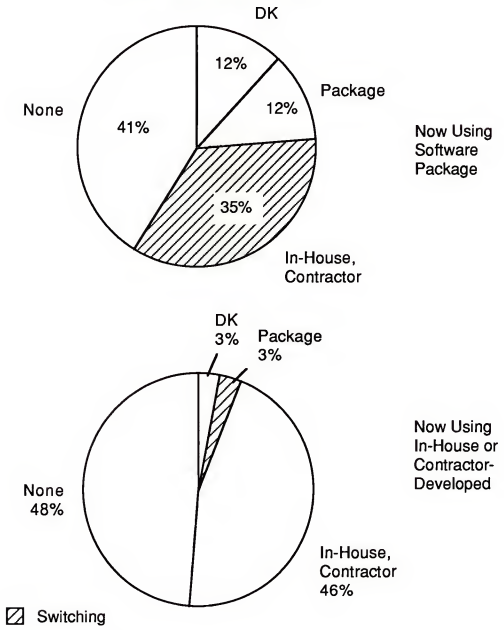
Prior Sources of Mission-Critical Applications



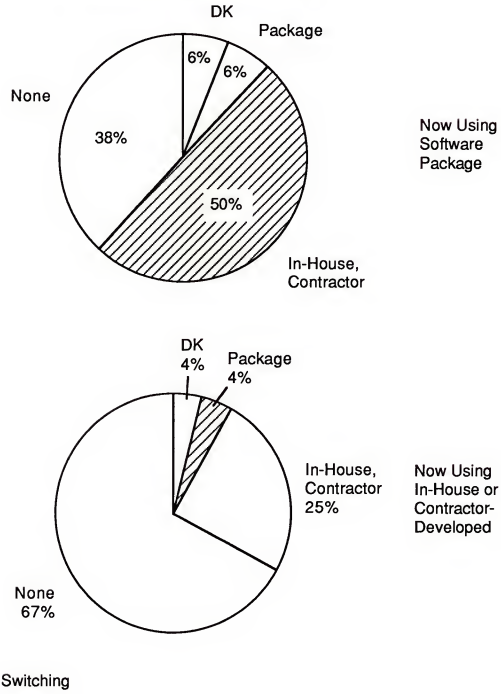
N = 190 applications

- Significant differences between food processors and utilities

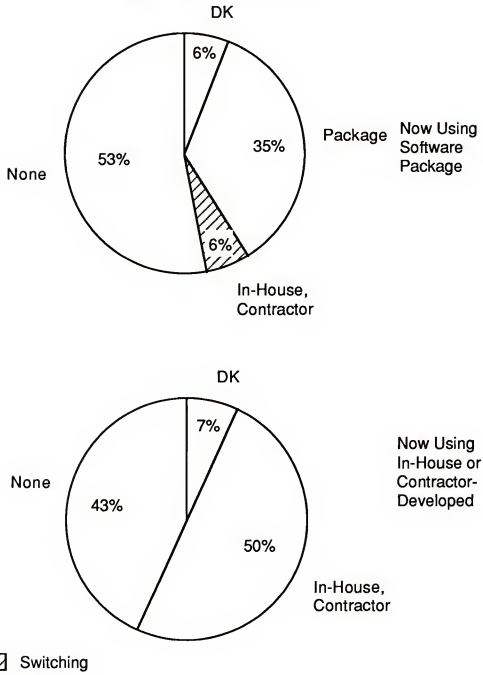
Prior Sources of Mission-Critical Applications (Large Food Processors)



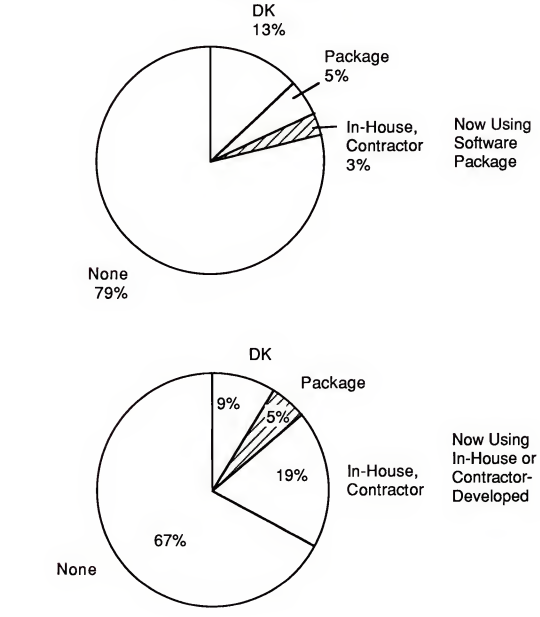
Prior Sources of Mission-Critical Applications (Medium Food Processors)



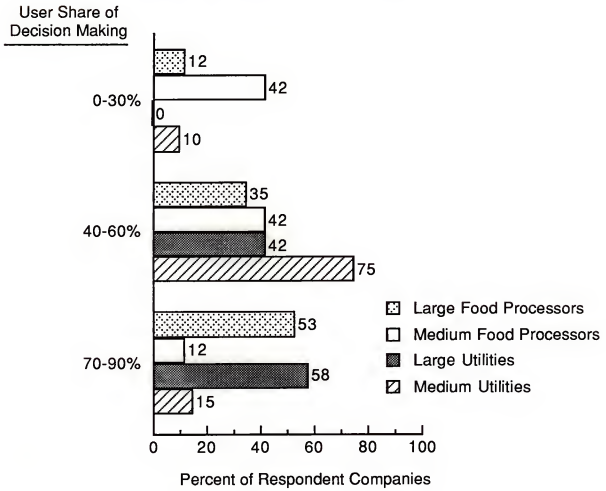
Prior Sources of Mission-Critical Applications (Large Food Processors)



Prior Sources of Mission-Critical Applications (Medium Utilities)



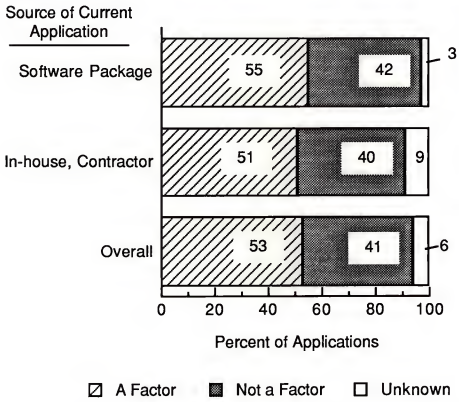
End-User Decision-Making Authority in Replacing Applications Software



N = 67 companies

- Users have more authority in larger companies

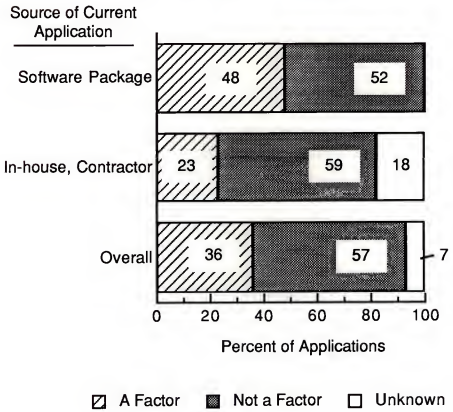
Role of a Quality Initiative in Selecting Current Mission-Critical Applications



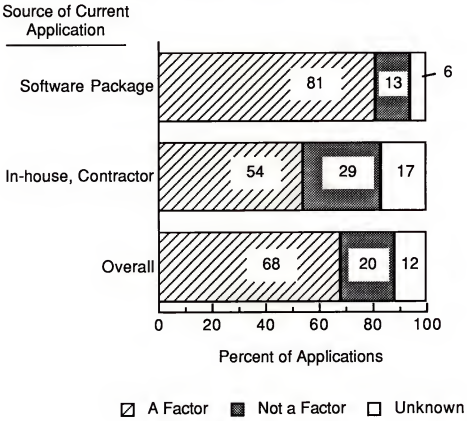
N = 190 applications

- Averages cancel striking differences between larger and smaller firms in motivations to use packages

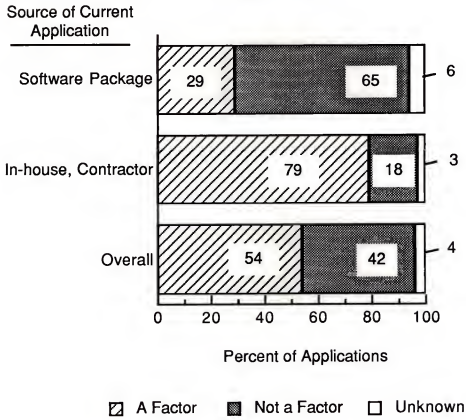
Role of a Quality Initiative in Selecting Current Mission-Critical Applications (Large Food Processors)



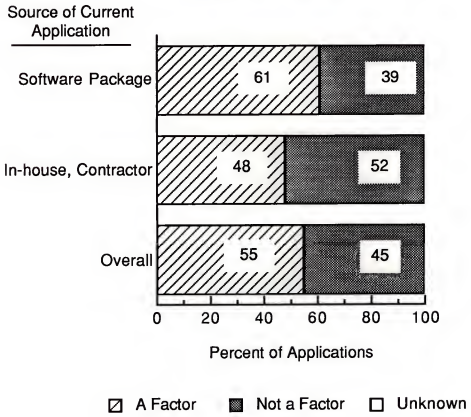
Role of a Quality Initiative in Selecting Current Mission-Critical Applications (Medium Food Processors)



Role of a Quality Initiative in Selecting Current Mission-Critical Applications (Large Utilities)



Role of a Quality Initiative in Selecting Current Mission-Critical Applications (Medium Utilities)



Applications Software Products
Revenue Ramp-Up Record/Assumptions

Vendor	Product	Ramp-Up Period	Comments
Macola Software	Accounting (Client/Server)	1987-1990	$10 million in 1990
PeopleSoft	Human Resources (Client/Server)	1989-1992	Profitable in 1992; success partly based on resemblance to Integral Software product (lawsuit in progress)
SAP (U.S.)	Manufacturing	1988-1990	$15 million (Note: Needed 3 years even with European reputation and many U.S. subsidiaries as customers)
Computer Associates	Applications generally	Assume 4 year ramp-up to pay off	
Systematics	Banking	Assume 3 years to widespread acceptability	Note: Systematics can guide customers to a greater extent than can many pure software firms

Manufacturing: Multiple Segment Opportunities

Manufacturing Segments	Approx. Size ($B)*	M-1 Country of Origin	M-2 Product Management	M-3 Advanced Logistics	M-4 Downsized SAP	M-5 Wait Reduction
Consumer Goods/ Food	400		X	X	X	
Pharmaceutical	50		X		X	
Chemical	75	X		X	X	
Petroleum	125		X		X	
Other Process	150					
Fabricated	75			X		X
Machinery	100	X		X		X
Electrical	125	X	X	X		X
Auto	250	X	X	X		X
Other Discrete	150			X		X
Wholesale Distribution	2,500			X		

*Some double counting

Manufacturing: Multiple Segment Opportunities (cont.)

Manufacturing Segments	Product Formulation	Pharmaceutical Research	Advanced MRP	Workstation Interface
Consumer Goods/ Food	X			X
Pharmaceutical	X	X		X
Chemical	X			X
Petroleum	X			X
Other Process				X
Fabricated			X	X
Machinery			X	X
Electrical			X	X
Auto			X	X
Other Discrete			X	X
Wholesale Distribution				X

Financial Industry: Applications Commonalities

Applications	Insurance	Banking	Brokerage
Trading		X	X
Retail Deposit		X	Large Accounts
Money Management (Wholesale, Retail)	X	X	X

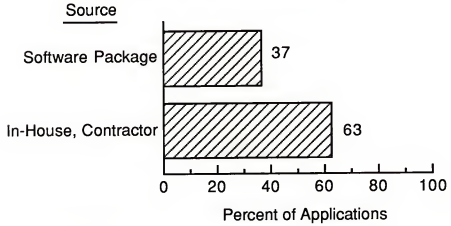
- Almost no other functional commonalities across sectors
- Distinctions persist even in "freed" European environment

Banking and Insurance Subsectors

Functional Segment	Approximate Number of Firms by Size		
	Large	Medium	Small
Commercial Banks/Thrifts	30	300	15,000
Life Insurers	25	200	500
Property/Casualty Insurers	25	200	500
Health Insurers	20	200	2,000

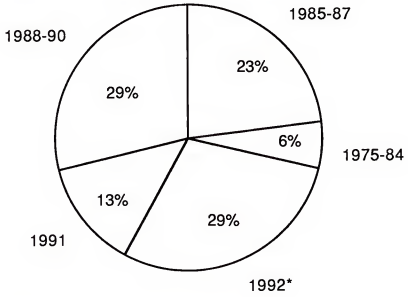
- Numbers are orders of magnitude
- Each cell has strikingly different needs

Source of Current Mission-Critical Applications (Large Food Processors)



N = 46 Applications

Year of Installation of Current Mission-Critical Application (Large Food Processors)



N = 46 applications

*Includes applications close to completion