Appendix A1: Original 14 "RP Communicative Capability Usefulness" Items Reviewed in Pilot Phase (originated in APICS forum discussions)

For each item: (a) Rate the extent to which it represents a feasible mechanisms for meaningfully communicating information in production settings; (b) Rate the extent to which you believe firms have made use of resource planning systems in such a fashion.

- 1) The communication of production requirements among employees **
- 2) The communication of production contract information among employees
- 3) The communication of production requirements among employees **
- 4) The identification of product-order handling difficulties by employees
- 5) The identification of production problems and issues by employees **
- 6) The identification of production conformance quality levels by employees
- 7) The flagging of production quality control concerns to employees
- 8) The flagging of production inventory account imbalances to employees
- 9) Goal-oriented production-process redesign collaboration among employees
- 10) Goal-oriented production planning and collaboration among employees **
- 11) Production activity coordination and scheduling among employees **
- 12) Production activity critiquing and debate among employees
- 13) The dissemination of forecasted demand reports to production employees
- 14) The dissemination of forecasted maintenance reports to production employees

[Note that items marked by '**' met the pilot selection criteria and were used in the subsequent experiment]

Appendix A2: Definition of RP systems accompanying each phase of the study

A resource planning system is one of a set of related information technologies (eg. ERP, MRPII, etc.) that provides standardized interfaces for the entry and retrieval of data relating to both within-day and long-term operating horizons. The associated database contains all information relating to the monitoring of inputs, outputs, resources and process descriptors (eg. status, schedules, pre-requisites, etc.) for a range of activities managed. The system ensures that such information may be visible and available to all workers affiliated with these activities.

Note: This definition was based off of recent personal experience with the implementation of such systems, the past specifications of Davenport (2002), Chase et al. (2001) and Mabert et al. (2003), as well as on direct discussions of such a general definition with several of these authors.

Appendix B: *Questions administered prior to case summaries and follow-ups*

a. Gender:	M / F				Age:		
		(e.g., l	BA, MBA, etc.)	4a. (Country of birth	n:	
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	ith current orga job title:						
	er of years in cu		nr.				
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2a. Numbe	er of months tha	t you have s	spent in a supervi	isory capaci	ity of some kind	1:	
Please rate	nt familiarity w the extent to scribed, using	which you	agree with the	following s	statements abo	out employee	s in the <u>prod</u>
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Appendix C: Experimental cases and questions administered in second phase

Case summary for Low Interdependency conditioned sub-sample:

A production unit in a small factory produces a single cellular phone model for Nokia. Each of the ten members of the production unit is responsible for one of ten sequential operations. Factory policy allows large buffer stocks of work-in-process to be maintained between operations. Although all ten individuals are required to work eight hours each day, they can begin and end their activities according to a flexible work schedule because of the buffer-stock policy. Workers at this factory do not have to communicate information regarding color, stock, or equipment to each other because the phone that they make leaves the factory in only one color, cabinet style, and functionality package. All of the workers at this factory have their own equipment, and so do not have to coordinate their use of production facilities. Over the last several years, neither the product design nor the production process has changed.

Case summary for High Interdependency conditioned sub-sample:

A production unit in a small factory produces several cellular phone models for Nokia. The ten members of the production unit rotate responsibility for each of ten sequential operations. Factory policy allows no buffer stocks of work-in-process to be maintained between operations. Although the unit's members are required to work eight hours each day, they must work together to determine work schedule because of the buffer-stock policy. Workers at this factory have to communicate information regarding color, stock, and equipment to each other because the phone that they make leaves the factory in five colors and cabinet styles with ten functionality packages. Because half of the workers at this factory share equipment, they have to coordinate their use of production facilities. Over the last several years, both the design of the product and the production process have changed extensively.

{Management perceived level of interdependence within experimental context}

Please rate the extent to which you agree with the following statements about employees in the <u>production</u> unit just described, using the scale below.

1	2	3	4	5	6	7	
highly	moderately	slightly	neither agree	slightly	moderately	highly	
disagree	disagree	disagree	nor disagree	agree	agree	agree	
1b. Employ	yees in this uni	t need infor	mation and advic	e from coll	eagues to perfor	m their jobs well.	
2b. Employees in this unit have a one-person job; it is not necessary for them to coordinate or cooperate with others.							
3b. Employees in this unit need to collaborate with colleagues to perform their jobs well.							
4b. Employees in this unit need information and advice from one another to perform their jobs well.							
5b. Employees in this unit regularly have to communicate with colleagues about work-related issues.							

{Management assessed usefulness of RP systems within experimental context}

Based on the <u>production facility just described</u>, please indicate your agreement with the following statements regarding the *potential usefulness* of resource planning systems in facilitating the following activities.

In the production facility described above, resource planning systems would be useful in				
6b. The communication of production requirements among employees.				
7b. The communication of production recommendations among employees.				
8b. The identification of production problems and issues by employees.				
9b. Goal-oriented production planning and collaboration among employees.				
10b. Production activity coordination and scheduling among employees.				