

The project team spent the remainder of the day analyzing how they could introduce lags into the network to shorten the project. They concluded that the following finish-to-start relationships could be converted into lags:

1. Document design could begin 5 days after the start of the review design.
2. Adjust design could begin 15 days after the start of field test prototypes.
3. Order stock parts could begin 5 days after the start of adjust design.
4. Order custom parts could begin 5 days after the start of adjust design.
5. Training sales representatives could begin 5 days after the start of test unit and completed 5 days after the production of 30 units.

As the meeting adjourns, Rassy turns to you and tells you to assess the options presented and try to develop a schedule that will meet the October 25 deadline. You are to prepare a report to be presented to the project team that answers the following questions:

1. Is it possible to meet the deadline?
2. If so, how would you recommend changing the original schedule (Part A) and why? Assess the relative impact of crashing activities versus introducing lags to shorten project duration.
3. What would the new schedule look like?
4. What other factors should be considered before finalizing the schedule?

CASE APPENDIX: TECHNICAL DETAILS

Create your project schedule and assess your options based on the following information:

1. The project will begin the first working day in January, 2017.
2. The following holidays are observed: January 1, Memorial Day (last Monday in May), July 4, Labor Day (first Monday in September), Thanksgiving Day (fourth Thursday in November), December 25 and 26.
3. If a holiday falls on a Saturday, then Friday will be given as an extra day off; if it falls on a Sunday, then Monday will be given as a day off.
4. The project team works Monday through Friday, 8-hour days.
5. If you choose to reduce the duration of any one of the activities mentioned, then it must be for the specified time and cost (e.g., you cannot choose to reduce database to 37 days at a reduced cost; you can only reduce it to 35 days at a cost of \$35,000).
6. You can only spend up to \$100,000 to reduce project activities; lags do not contain any additional costs.

Case 9.6



The “Now” Wedding—Part A*

On December 31 of last year, Lauren burst into the family living room and announced that she and Connor (her college boyfriend) were going to be married. After recovering from the shock, her mother hugged her and asked, “When?” The following conversation resulted:

Lauren: January 21.

Mom: What?

Dad: The Now Wedding will be the social hit of the year. Wait a minute. Why so soon?

Lauren: Because on January 30 Connor, who is in the National Guard, will be shipping out overseas. We want a week for a honeymoon.

Mom: But, Honey, we can't possibly finish all the things that need to be done by then. Remember all the details that were involved in your sister's wedding? Even if we start tomorrow, it takes a day to reserve the church and reception hall, and they need at least 14 days' notice. That has to be done before we can start decorating, which takes 3 days. An extra \$200 on Sunday would probably cut that 14-day notice to 7 days, though.

Dad: Oh, boy!

Lauren: I want Jane Summers to be my maid of honor.

Dad: But she's in the Peace Corps in Guatemala, isn't she? It would take her 10 days to get ready and drive up here.

Lauren: But we could fly her up in 2 days and it would only cost \$1,000.

Dad: Oh, boy!

Mom: And catering! It takes 2 days to choose the cake and decorations, and Jack's Catering wants at least 5 days' notice. Besides, we'd have to have those things before we could start decorating.

Lauren: Can I wear your wedding dress, Mom?

Mom: Well, we'd have to replace some lace, but you could wear it, yes. We could order the lace from New York when we order the material for the bridesmaids' dresses. It takes 8 days to order and receive the material. The pattern needs to be chosen first, and that would take 3 days.

Dad: We could get the material here in 5 days if we paid an extra \$20 to airfreight it. Oh, boy!

Lauren: I want Mrs. Jacks to work on the dresses.

Mom: But she charges \$48 a day.

Dad: Oh, boy!

Mom: If we did all the sewing we could finish the dresses in 11 days. If Mrs. Jacks helped we could cut that down to 6 days at a cost of \$48 for each day less than 11 days. She is very good, too.

Lauren: I don't want anyone but her.

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Mom: It would take another 2 days to do the final fitting and 2 more days to clean and press the dresses. They would have to be ready by rehearsal night. We must have rehearsal the night before the wedding.

Dad: Everything should be ready rehearsal night.

Mom: We've forgotten something. The invitations!

Dad: We should order the invitations from Bob's Printing Shop, and that usually takes 7 days. I'll bet he would do it in 6 days if we slipped him an extra \$20!

Mom: It would take us 2 days to choose the invitation style before we could order them and we want the envelopes printed with our return address.

Lauren: Oh! That will be elegant.

Mom: The invitations should go out at least 10 days before the wedding. If we let them go any later, some of the relatives would get theirs too late to come and that would make them mad. I'll bet that if we didn't get them out until 8 days before the wedding, Aunt Ethel couldn't make it and she would reduce her wedding gift by \$200.

Dad: Oh, boy!!

Mom: We'll have to take them to the Post Office to mail them and that takes a day. Addressing would take 3 days unless we hired some part-time girls and we can't start until the printer is finished. If we hired the girls we could probably save 2 days by spending \$40 for each day saved.

Lauren: We need to get gifts for the bridesmaids. I could spend a day and do that.

Mom: Before we can even start to write out those invitations we need a guest list. Heavens, that will take 4 days to get in order and only I can understand our address file.

Lauren: Oh, Mom, I'm so excited. We can start each of the relatives on a different job.

Mom: Honey, I don't see how we can do it. Why, I've got to choose the invitations and patterns and reserve the church and . . .

Dad: Why don't you just take \$3,000 and elope? Your sister's wedding cost me \$2,400 and she didn't have to fly people up from Guatemala, hire extra girls and Mrs. Jacks, use airfreight, or anything like that.

1. Using the yellow sticky approach shown in Snapshot from Practice 6.1, develop a project network for the "Now" wedding.
2. Create a schedule for the wedding using MS Project. Can you reach the deadline of January 21 for the "Now" wedding? If you cannot, what would it cost to make the January 21 deadline and which activities would you change?

*This case was adapted from a case originally written by Professor D. Clay Whybark, University of North Carolina, Chapel Hill, N.C.

Case 9.7



The "Now" Wedding—Part B

Several complications arose during the course of trying to meet the deadline of January 20 for the "Now" wedding rehearsal. Since Lauren was adamant on having the wedding on January 21 (as was Connor for obvious reasons), the implications of each of these complications had to be assessed.

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1. On January 1 the chairman of the Vestry Committee of the church was left unimpressed by the added donation and said he wouldn't reduce the notice period from 14 to 7 days.
2. Mother came down with the 3-day flu as she started working on the guest list January 2.
3. Bob's Printing Shop press was down for 1 day on January 5 in order to replace faulty brushes in the electric motor.
4. The lace and dress material were lost in transit. Notice of the loss was received on January 10.

Could the wedding still take place on January 21? If not, what options were available?

Design elements: Snapshot from Practice, Highlight box, Case icon: ©Sky Designs/Shutterstock

¹ Brooks's *The Mythical Man-Month* (Reading, MA: Addison-Wesley, 1994) is considered a classic on software project management.

² Gordon, R. L., and J. C. Lamb, "A Close Look at Brooks' Law," *Datamation*, June 1977, pp. 81–86.

³ Linearity assumes that the cost for crashing each day is constant.