University of Pisa
MSc in Computer Engineering

Systems for Strategic Management and Support

LECTURE 2

http://www.iet.unipi.it/m.cimino/ssms/

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INTRODUCING AN EXAMPLE TO MAKE THE POINT

Mid-1990s, a large telephone company (Telco) requested to its regulator (a federal agency) to raise the rates for subscribers

The regulator denied the rate increase because the Telco's Service Provisioning processes were generating too many complaints: It took too long for Telco to respond to 3 types of service orders.

In: connection of a new telephone service (when a subscriber moves into a service area)

Out: disconnection of a new telephone service (when a subscriber moves out of the service area)

Move: relocation of telephone service, (when a subscriber moves to a new address within the same service area)

AN EXAMPLE TO MAKE THE POINT

The regulator told Telco to improve their processes. A task force identified five processes:

Demonstrating flawed business process identification.

A separate team started analysis and improvement on each of the five processes, all with considerable success

E.g., the Facilities Management Process, responsible for assigning network facilities (cable pairs and net addresses), discovered that a large proportion of work was spent every day by retrieving and updating, in pencil, large net maps from the map cabinets, a cycle repeated for almost every order.

AN EXAMPLE TO MAKE THE POINT

Orders were handled on a first-come-first-served basis. About 10 minutes to complete an order.

The team sorted the orders by neighborhood, and within each neighborhood they were sorted into outs (to freed up facilities), ins (new customers were the priority), and moves. Each neighborhood was typically handled once a week.

The time-per-order improvement was from 10 min. to 1-2 min.!

Other teams did just as well.

E.g., the Installation Process. A lot of time was spent driving around subscribers buildings. A route scheduling system was implemented which raised the installer's performance in terms of visits per day.

However, the regulator deined the subsequent rate case: it now took longer to complete service orders, complaint were rising!

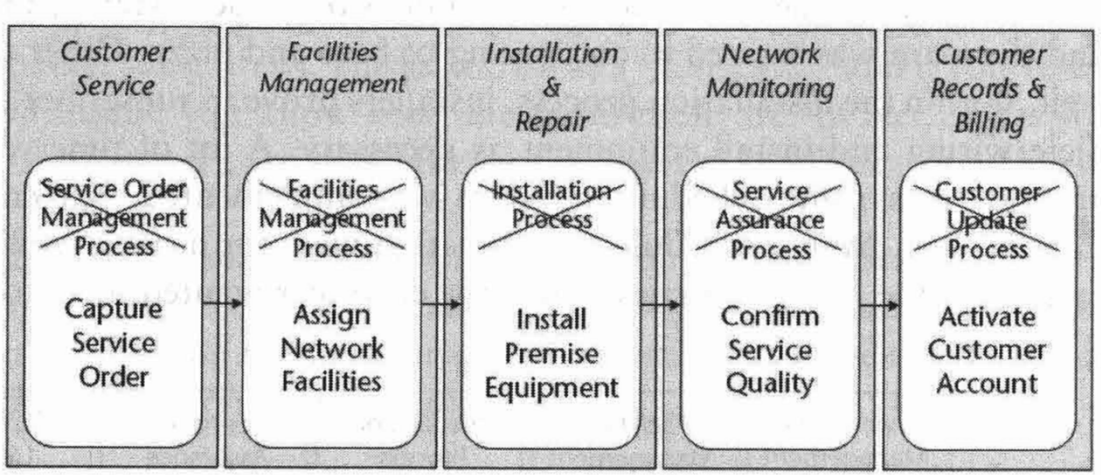
WHAT WENT WRONG

The process were not named correctly. It is not the most important problem, but it contributed.

e.g. ‘Facilities Management’ → Mushy verb fuzziness, no specific, no individual result provided for each customer.

‘Assign Network Facilities’ is better, specific for each order.

Process was confused with functional organization: each process is provided by a single functional area. This furter emphasized the focus on functions rather than the customer needs.



Problems—improper naming, confusing function and process.

WHAT WENT WRONG

The team focused on achieving local, task-based efficiency rather than on delivering the result the customer ultimately wanted.

⇒Each individual service order spent a lot of its time waiting to be handled. E.g. if a customer on Tuesday moves to another neighborhood which is served on Monday, it would not be handled for almost a week.

Focus was on efficiency instead of quality of service. The customer does not really case how efficiently facilities are assigned, he cares how quick his new telephone service is working or how dependably it is moved on the desired state.

WHAT THE PROCESS SHOULD HAVE BEEN

When a customer places a move order, he is saying “I want my telephone service moved” → noun-is-verbed statement

→ Desired result: telephone service is moved

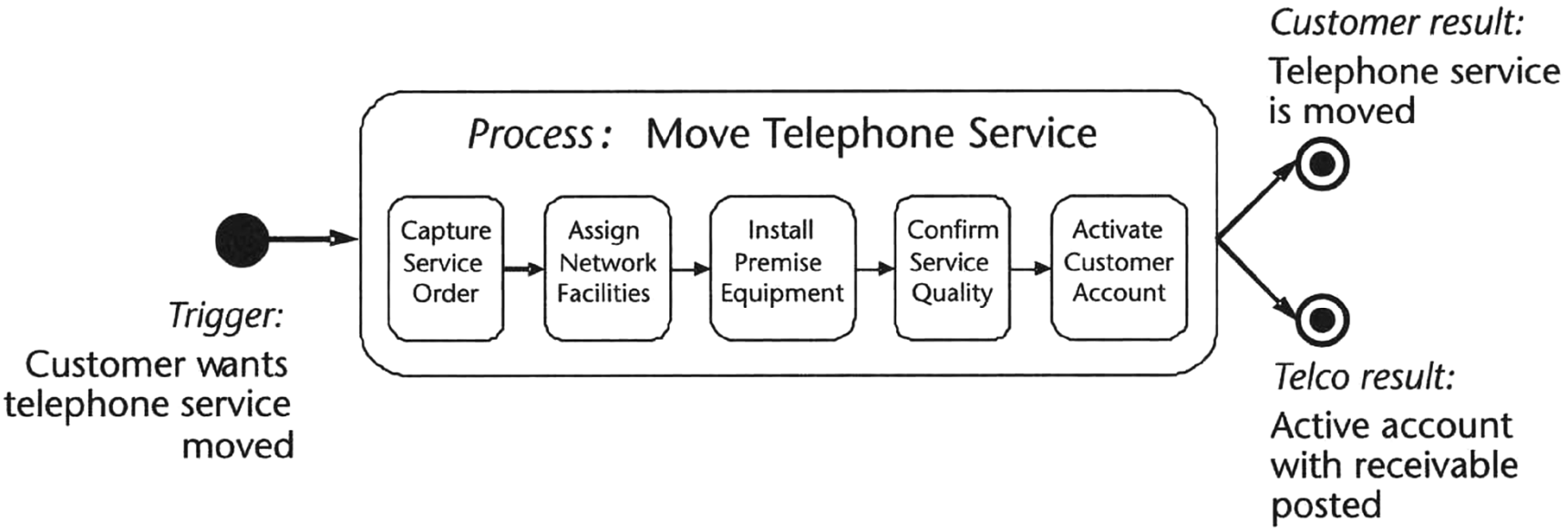
→ Process name (verb-noun form): Move Telephone Service

Telco actually wants - from each customer request – a receivable in the customer account and an active customer service generating ongoing income

That result is not delivered until the triggering event, the order from the customer, has worked its way through all five subprocesses

→ The process is the end-to-end chain, from the triggering event through final results that stem from that event

WHAT THE PROCESS SHOULD HAVE BEEN



The actual business process.

Why Assign Network Facilities is not a business process instead of a subprocess, as we claimed (short process)?

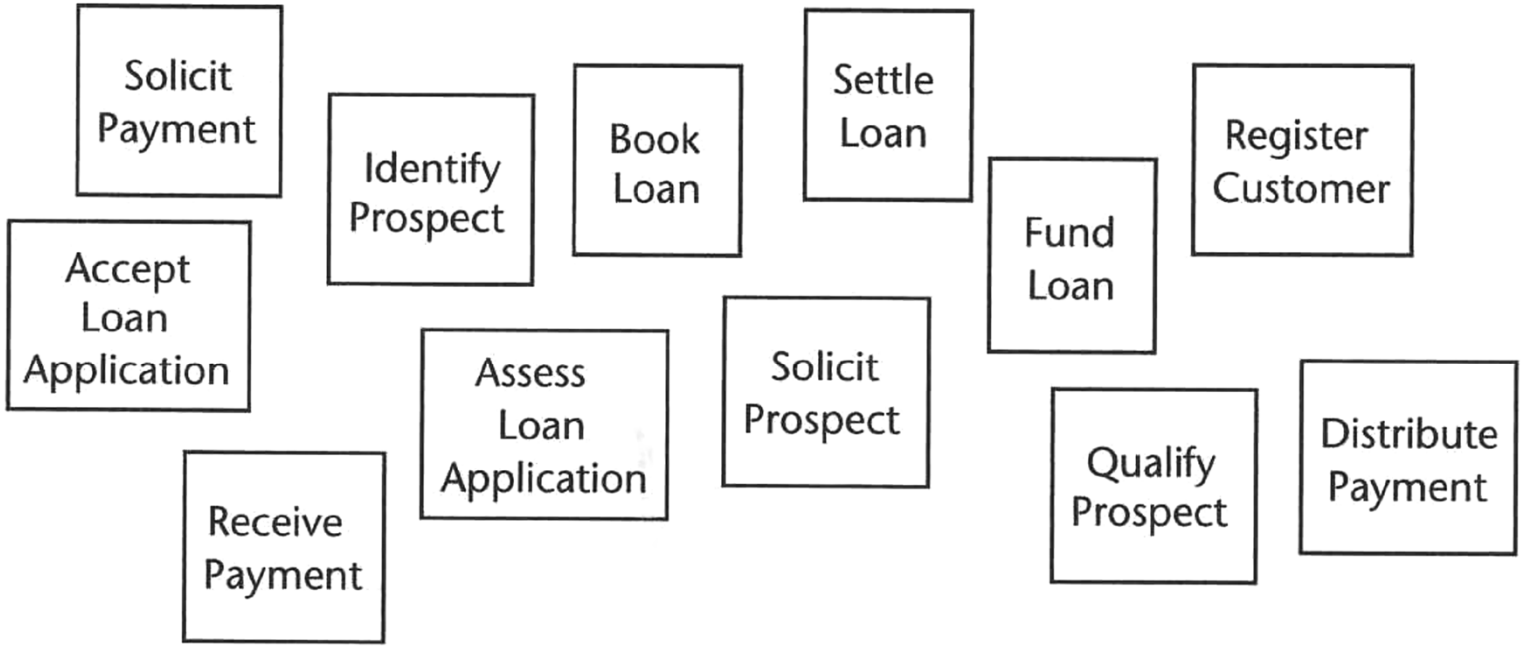
Why the arrival of a new customer has not been seen as an event leading to a long chain of activities ending when customer ceased to be active (large process)?

FINAL GUIDELINE: IDENTIFYING A BUSINESS PROCESS

E.g. Commercial Loans Management area

S047

1) WRITE DOWN ON POST-IT NOTES, THE PROCESSES THAT THE TEAM COULD IMMEDIATELY THINK OF

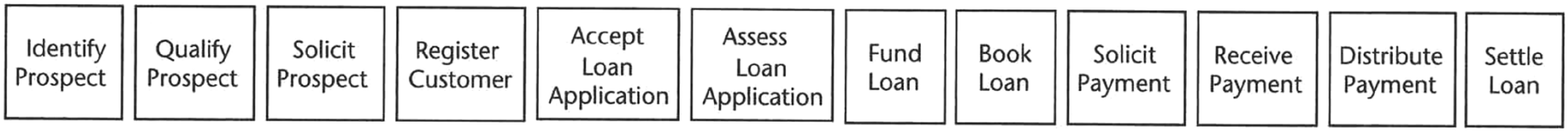


Initial suggestions for Commercial Loans processes.

FINAL GUIDELINE: IDENTIFYING A BUSINESS PROCESS

Some initially proposed processes were with incomplete names, e.g. Booking or Qualification. The verb-noun format was given.

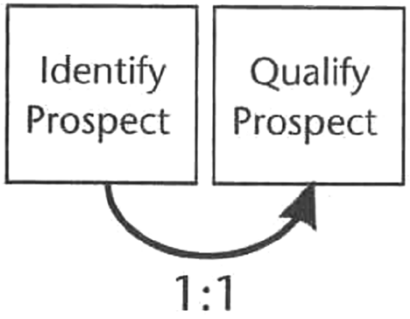
S048 2) PUT THE PROCESSES INTO THEIR TYPICAL SEQUENCE



Suggested processes put in typical sequence.

S049 2) FOR EACH SEQUENTIAL FLOW FROM ONE PROCESS TO THE NEXT, LOOK AT THE RATIO OF THE FORMER TO THE LATTER AND VICEVERSA.

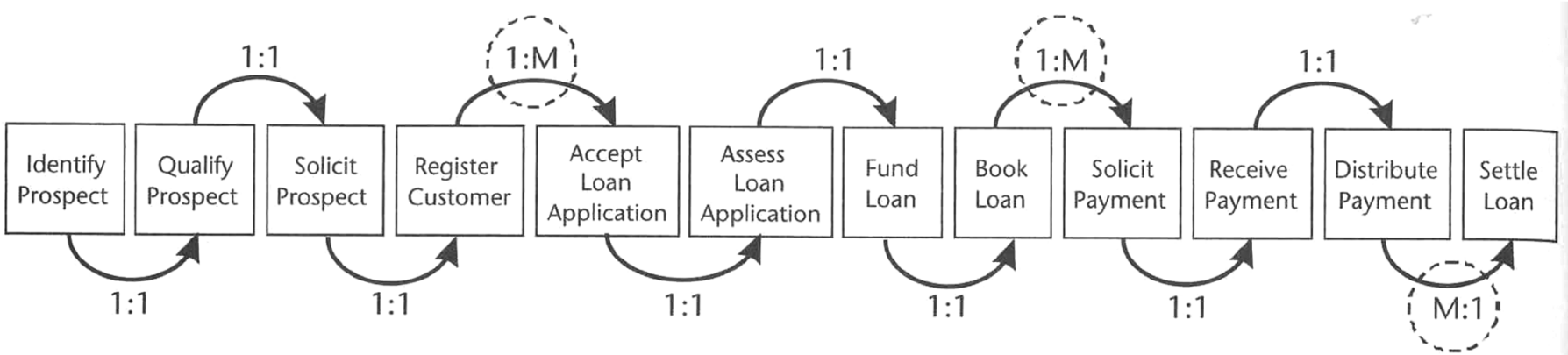
One instance of Identify Prospect is followed by one instance of Qualify Prospect



One instance of Qualify Prospect is followed by one instance of Identify Prospect

FINAL GUIDELINE: IDENTIFYING A BUSINESS PROCESS

If Qualify Prospect determines that the prospect is not desirable, then it is followed by zero instances of Solicit Prospect. Is the ratio 1:0 ?



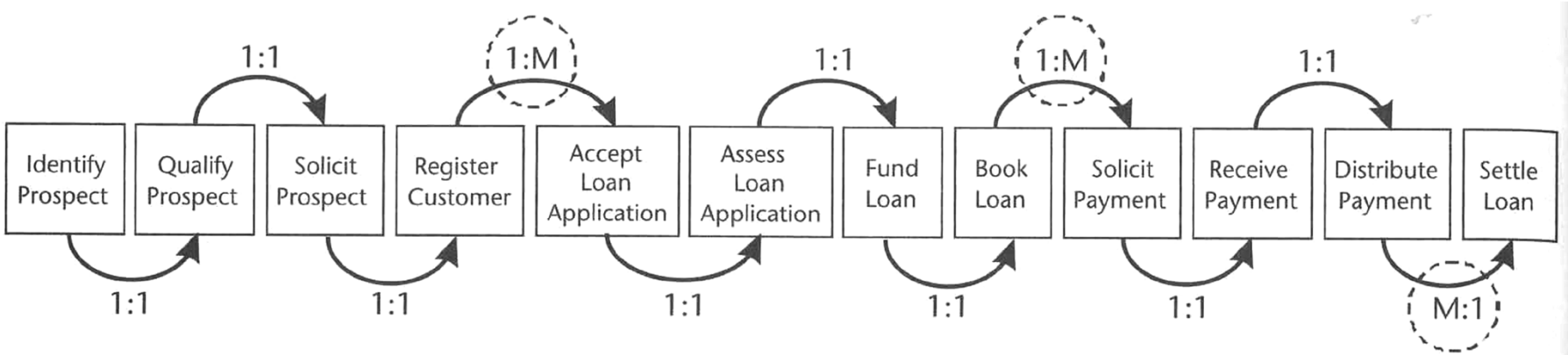
Analyzing relationships between processes.

S050 Do not worry about dropouts that do not continue, be focused on “happy path”, i.e., the 1:1 case.

S051 Very often, Solicit Prospect will loop back on itself. Do not worry about looping, it is not an one-to-many (1:M) case.

FINAL GUIDELINE: IDENTIFYING A BUSINESS PROCESS

A true 1:M or M:1 ratio is, for instance, once a customer is registered and the customer applies for many loans. Similarly, one loan is followed by many payment cycles.



Analyzing relationships between processes.

S052

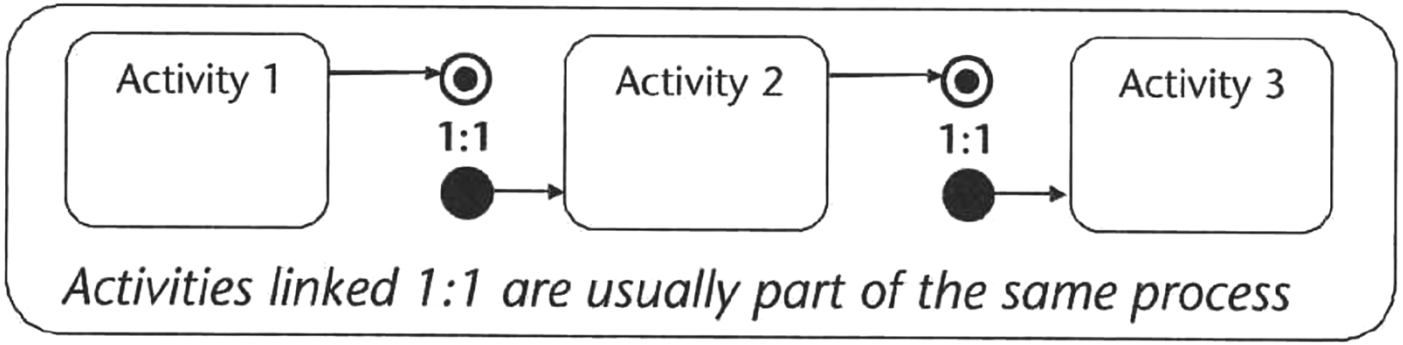
3) IF PROCESSES ARE CONNECTED ON A 1:1 BASIS, THEN WE SAY THAT THEY ARE PART OF A SINGLE, END-TO-END, BUSINESS PROCESS.

They might be subprocesses, or tasks, or steps.

FINAL GUIDELINE: IDENTIFYING A BUSINESS PROCESS

S053 4) A BUSINESS PROCESS GENERALLY HAS 5 ± 2 SUBPROCESSES.

S054 5) A SUBPROCESS ACHIEVES A SIGNIFICANT MILESTONE TO THE ACHIEVEMENT OF THE FINAL RESULT OF THE BUSINESS PROCESSES AND IS OFTEN SOMETHING THAT THE ORGANIZATION WOULD LIKE TO MEASURE



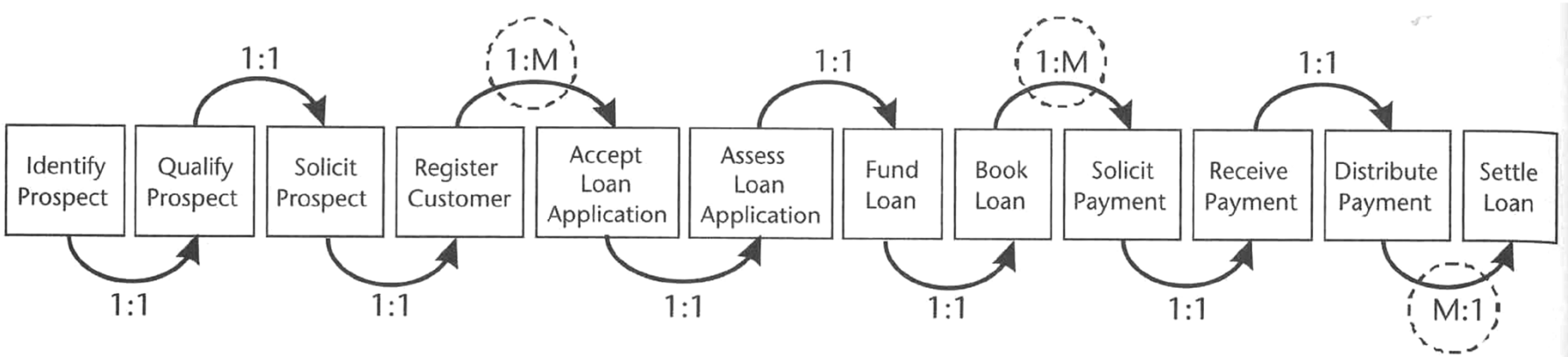
Guideline for "assembling" activities into business processes.

S055 6) IF THERE IS A 1:M, M:1, OR A M:N LINKAGE, THAT ALMOST ALWAYS INDICATES THE BOUNDARY BETWEEN TWO SEPARATE BUSINESS PROCESSES

FINAL GUIDELINE: IDENTIFYING A BUSINESS PROCESS

S056

More precisely, verify that within a single end-to-end business process it is the same "token" or "work item" that is moving through the process, although its state is being changed

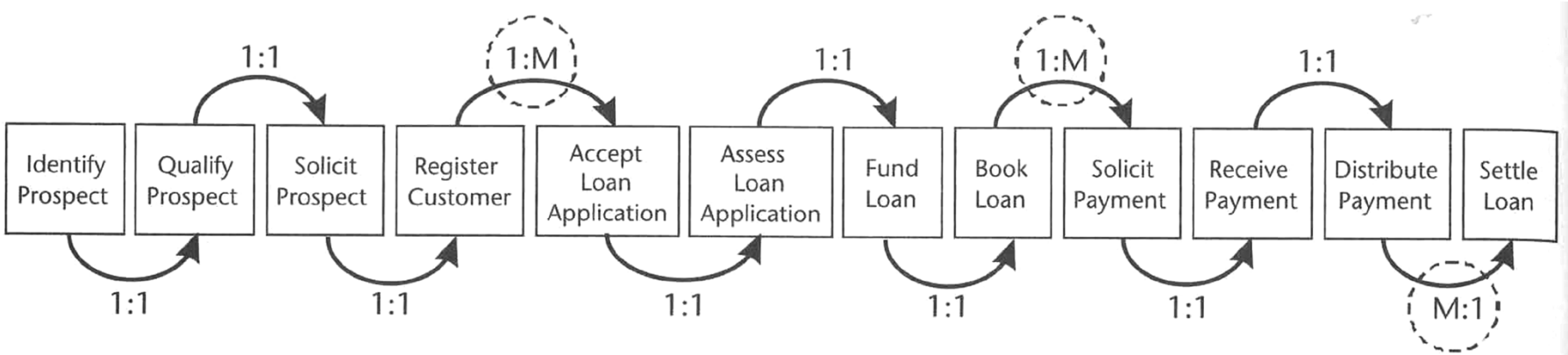


Analyzing relationships between processes.

E.g., through the first four processes, the same person or organization is being acted on, with the state changing from prospect to customer. In the next set of activities, it is a loan application that is moving through the processes, changing from an application to a booked loan

FINAL GUIDELINE: IDENTIFYING A BUSINESS PROCESS

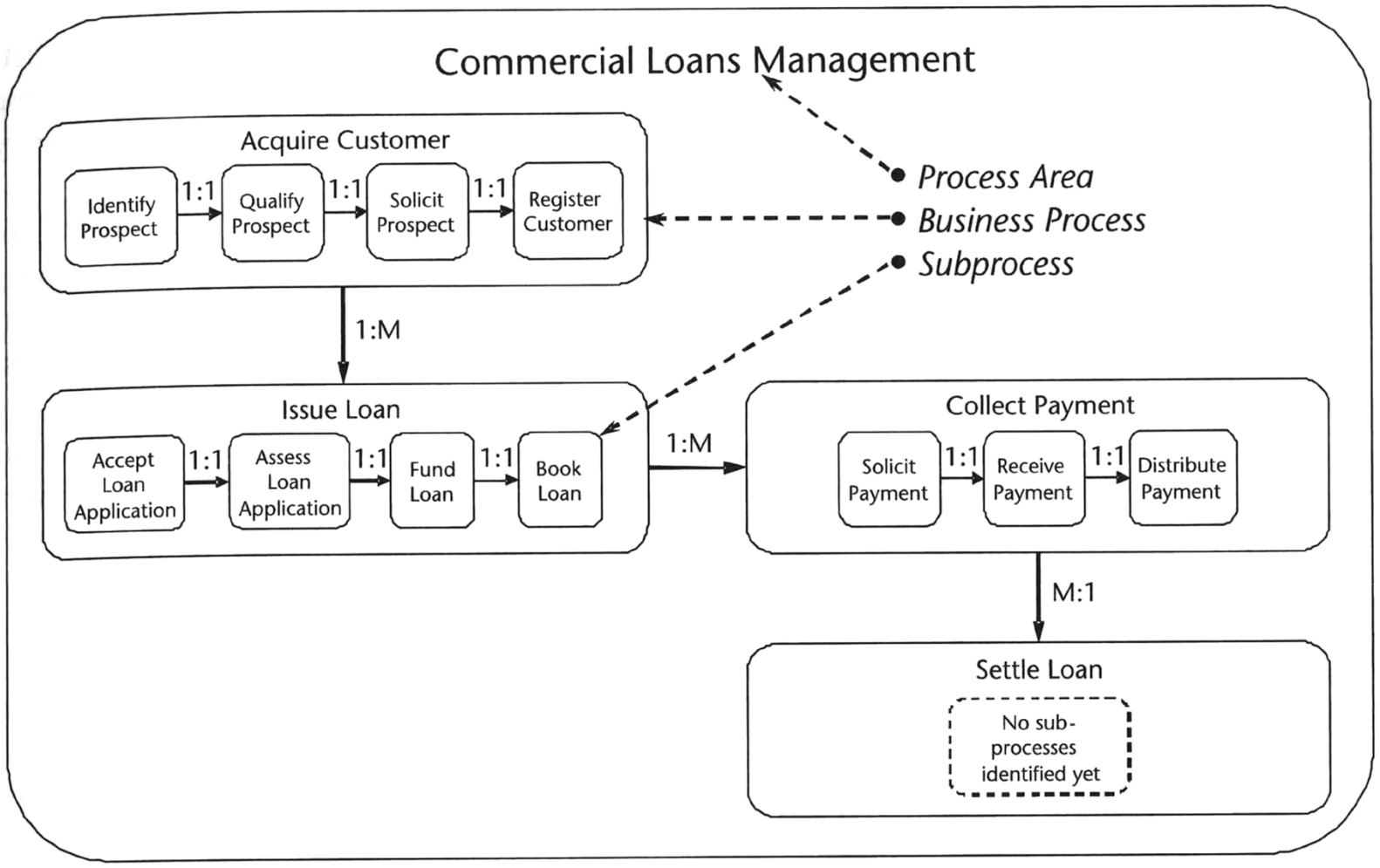
Later, it is a payment request that is being acted on. Whenever you find a 1:M or M:N connection, a different token is the focus of the process.



Analyzing relationships between processes.

Applying the guidelines to the commercial loans example, we arrive at four business processes, each containing probable subprocesses.

FINAL GUIDELINE: IDENTIFYING A BUSINESS PROCESS



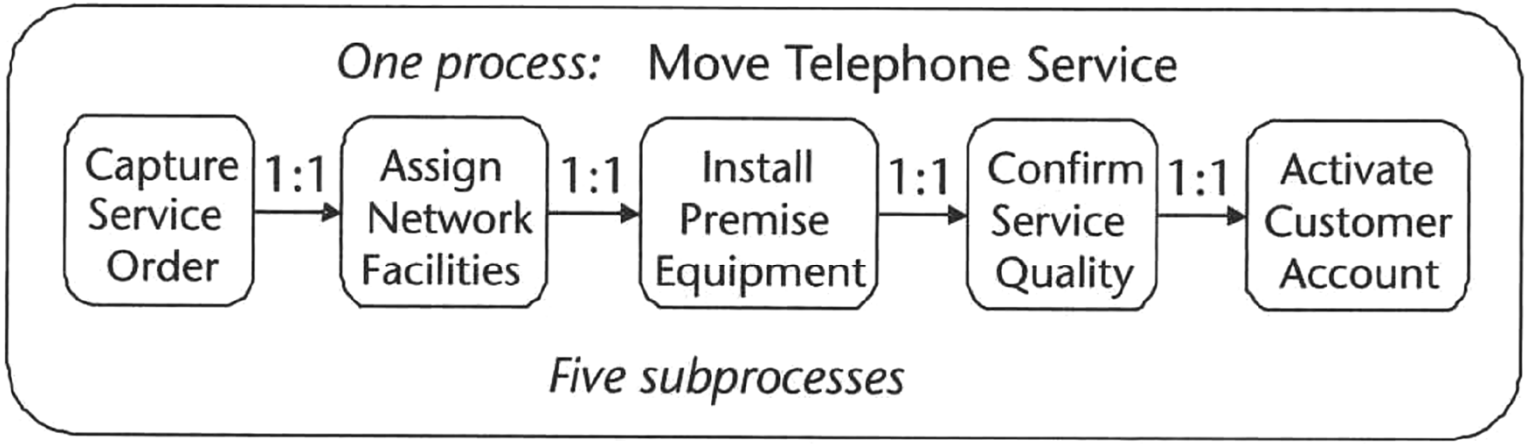
Process area, business processes, and subprocesses.

APPLYING THE GUIDELINE: THE TELCO EXAMPLE

S057 Further work with the team discovered a fifth process that had initially been missed, Resolve Loan Service Issue.

S058 This indicate a fact of the life cycle: discovering and defining business processes is an **iterative** effort.

Let us apply the guidelines to the Telco example.

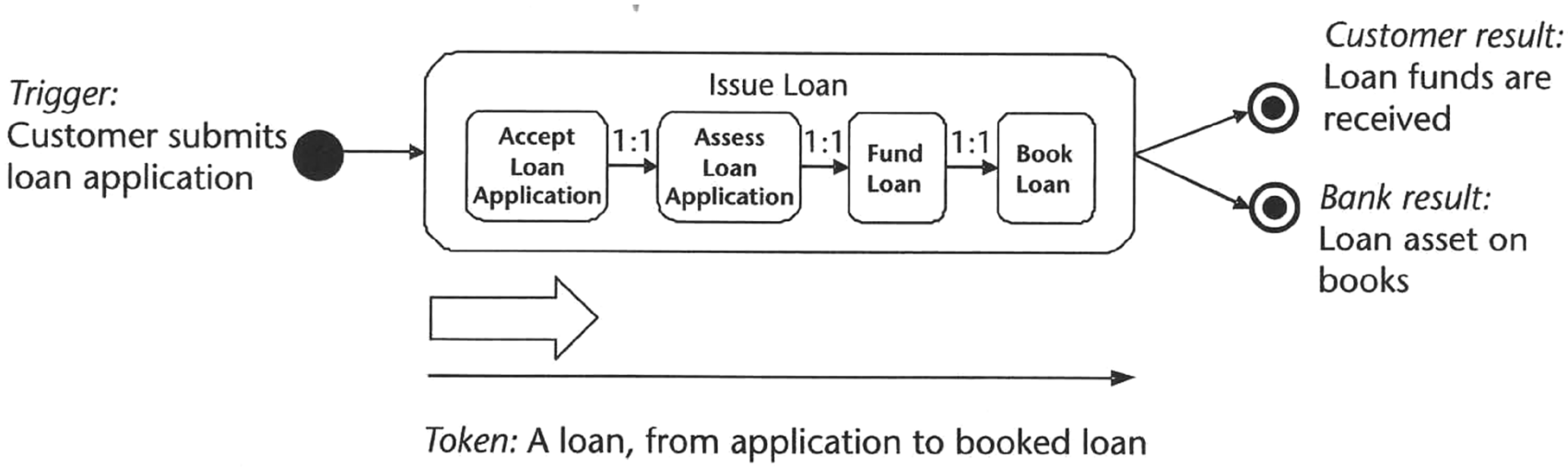


Guideline applied to the telco process and subprocesses.

SUMMARIZE THE GUIDELINES FOR IDENTIFYING A PROCESS

Activities linked on a 1:1 basis are part of the same process

Each process is generally triggered by an event (action or time) that is outside your control

At the end is one-to-more results that make one or more stakeholders happy

The same token moves through the whole process, with the process tipically trasforming it.