Some reflections on the concept of "credit assembly line" within a credit institution

November 2012

Definition

Translation

Some reflections

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Throughout recent history approaches to design and manage processes changed industrial business landscape ….
- Ford's assembly line concept (use of conveyer belt in mass production of cars)
- Taylor's Scientific Management
- Just in time manufacturing and lean production (Toyota)
- Six Sigma (Motorola)

Approaches more focusing on Information and Service Business are available in a variety of 3 letter abbreviations:

- BPR (Business Process Reengineering / Redesign
- BPM (Business Process Management)
- TOC (Business Process Improvement)

All these approaches have one common high level goal: **Economic Efficiency**

What are the basics of an "assembly line"?

At its most basic, an assembly line is **a series of stations** at which people (or machines) add to or assemble parts for a product.

It is a manufacturing technique in which a product is carried by some form of mechanized **conveyor** among stations at which the various operations necessary to its assembly are performed. **It is used to assemble quickly large numbers of a uniform product**.

Henry Ford brought the assembly line to the manufacture of cars. Assembly lines use **standard parts**. Each Ford Model T started with the same raw materials that were molded, bent, pressed and cut exactly the same way to produce exactly the same product, a black Model T. Assembly lines enabled Ford to minimize labor expenses and get a good return on his investment. Creativity was not part of the line worker's day.

Can we translate the basics of "assembly line" to a credit institution?

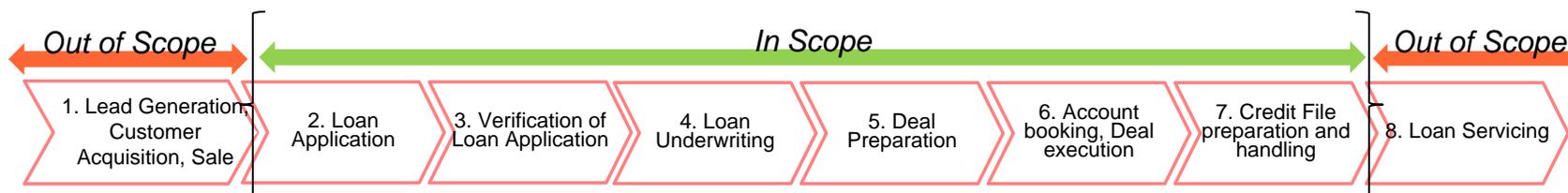Definition

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The assembly line concept is commonly used within a Credit Origination Process and the characteristics of the concept are translated as follows:

A series of stations : process steps

Conveyor : workflow systems

It is used to assemble quickly large numbers of a uniform product : e.g. credit cards

Standard parts: product definition and flexibility constraints

Out of Scope — *In Scope* — *Out of Scope*

| 1. Lead Generation, Customer Acquisition, Sale | 2. Loan Application | 3. Verification of Loan Application | 4. Loan Underwriting | 5. Deal Preparation | 6. Account booking, Deal execution | 7. Credit File preparation and handling | 8. Loan Servicing |

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Efficiency is doing things right;
Effectiveness is doing the right
things. "Peter Drucker"

Conform idea of "assembly lines" in an industrial production environment:

"design and implement a process which is highly efficient and cost effective"

Efficient:
- Manages the completion of *transactions* by assigning *tasks* to the optimal set of *resources* in the optimal sequence (= workflow)
- Automate what can be automated (ROI logic)
- Manage Time to decision

Cost effective:
- Control Credit losses (defaults)
- Control Operational losses (fraud, legal issues ..)
- Control Business results (Approval and Reject rates)

Key element : Design Decision Engine

A decision engine in a loan origination process ultimately should be the cockpit which allows the Bank to achieve set business results:
- managing operational costs (when do I use an underwriter..)
- managing operational costs by automatic rejects
- managing gross fee and interest income by tuning approval rate in function of set risk appetite
- managing credit and operational risks by using application scoring and fraud scoring
- ….

A decision engine can contain following components:
- product and credit policy rules
- credit history evaluation (internal and external)
- credit scores (internal and external)
- fraud score
- repayment capacity calculation rules

All components should contain parameters which are tunable in function of business plans and risk appetite of the Bank

Each component can result in a hard reject.

Credit and Product policy check → Credit History check → Fraud & security check → Credit scoring → Repayment capacity calculation

Internal and external

Cut Offs