Service Engineering: Multi-Disciplinary Process View
Call Center Design

Index
- Function (yellow)
- Scientific Discipline (pink)
- Multi-Disciplinary (cyan)

Service Completion (75% in Banks)

Lost Calls

Redial (Retrial)

Busy (Rare) — Good or Bad

Arrivals (Business Frontier of the 21th Century)

Forecasting — Statistics, Human Resource Management (HRM)

VRU/IVR

Internet Chat Email Fax

Customers Interface Design — Human Factors Engineering

New Services Design (R&D) — Operations, Marketing, MIS

Information Design — Marketing, Psychology, Operations Research (← Waiting Time ↔ Return Time)

Organization Design: Parallel (Flat) Sequential (Hierarchical) — Sociology, Psychology, Operations Research

Queue (Invisible)

Agents

Experts

Operations/ Business Process Archive

Database Design — Data Mining: MIS, Statistics, Operations Research, Marketing

Service Completion

Computer-Telephony Integration - CTI — MIS/CS

Job Enrichment Training — HRM

Tele-Stress — Psychology (Turnover up to 200% per Year) (Sweat Shops of the 21th Century)

Incentives — Game Theory, Economics

Agents (CSRs)

Customers Segmentation - CRM — Marketing

Efficiency

Quality

Skill Based Routing (SBR) Design — Marketing, HRM, Operations Research, MIS

Psychological Process Archive

Expect 3 min / Willing 8 min / Perceive 15 min (If Required 15 min, then Waited 8 min) (If Required 6 min, then Waited 6 min)

Psychology, Operations Research, Marketing

VIP Queue

VIP (Training)

Back-Office

Service Process Design — Operations Research, Economics, HRM

Logistics

Abandonment — Psychology, Statistics

Redial

Lost Calls

Positive: Repeat Business
Negative: New Complaint