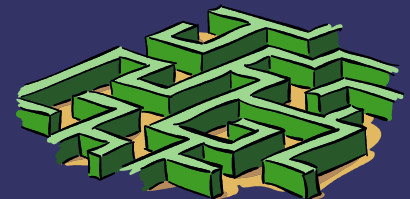


HOW THE TRADING TECHNOLOGY CHANGES THE MARKET MICROSTRUCTURE

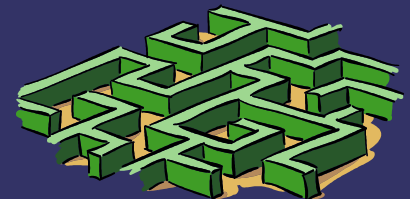
Presented by D.BINAM, Consultant

ESSEC, December 2, 2010



Electronic trading

- ⇒ Physical location vs virtual market place
- ⇒ uses information technology to bring together buyers and sellers through electronic media to create a virtual market place.
- ⇒ 1969 : First ECN, Instinet
- ⇒ 1992 : Fix Protocol launching
- ⇒ 2007 : MIFID, Competition between financial market in europe
- ⇒ 2010 Flash Crash, May 6



Players

- ⇒ Asset Managers
- ⇒ Brokers
- ⇒ Dealers
- ⇒ Exchanges
- ⇒ Arbitrageurs
- ⇒ Regulators



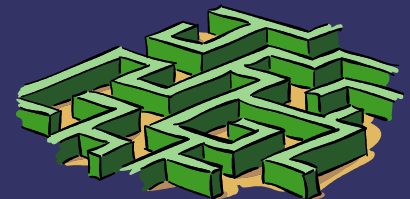
Markets in Financial Instruments Directive

- ⇒ Fragmentation of market
 - Traditional exchanges
 - alternative trading system

- ⇒ Best execution
 - Traditional exchanges
 - alternative trading system
 - Internalization

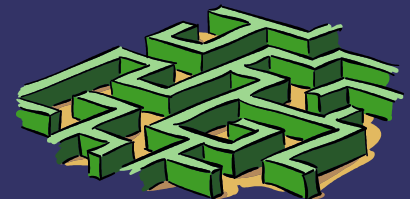
- ⇒ Pre-trade and post-trade transparency obligations

- ⇒ Trade reporting facilities



FIX Protocol

- ➔ Financial Information eXchange Protocol
- ➔ Designed for real-time exchange of securities transactions
- ➔ Standard, Public
- ➔ Users : Major Stock Exchange, Investment Bank, brokers
- ➔ Tools : OMS, EMS, SOR, Dark Pools



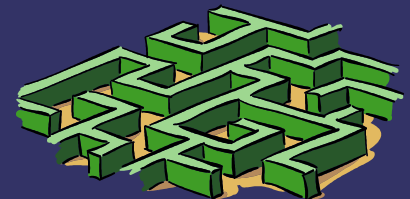
New Tools and new ways of trading

- ⇒ OMS : Order Management System
- ⇒ EMS : Execution Management System
- ⇒ SOR : Smart Order Routing
- ⇒ Algorithmic trading
- ⇒ Dark Pool



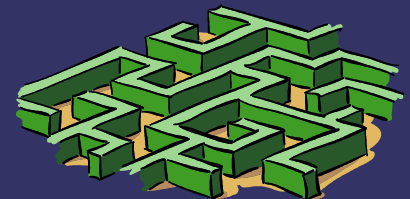
ORDER MANAGEMENT SYSTEM

- ➔ Manages the workflow between different desks
- ➔ Receives orders from clients
- ➔ For one order, release different quantities to different brokers
- ➔ Manages the process between the trader and the broker
- ➔ Receives all the executions from the market via the broker



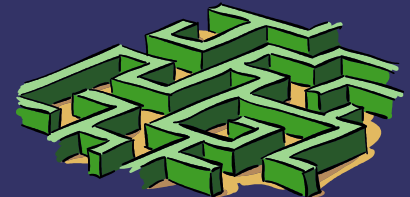
☰ *Execution Management System*

- ➔ Provides Direct Market Access (DMA) through a broker
- ➔ Analyses the market
- ➔ Monitors in real time your execution status
- ➔ Provides charting functions to the trader
- ➔ Enables arbitrage strategies
- ➔ Achieves best execution



Smart Order Routing

- ➔ Dynamically splits and routes orders to multiple venues
- ➔ Gives a consolidated view of the market's trading activity and a true picture of liquidity.
- ➔ Enables venue prioritization based on transaction costs and compiles orders
- ➔ Creates the possibility for internalization
- ➔ Adds value to the execution process
- ➔ Achieves best execution



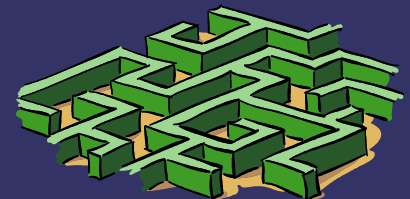
Algorithmic trading

- ➔ automates trading with the computer algorithm deciding on aspects of the order such as the timing, price, or quantity of the order
- ➔ initiates the order without human intervention
- ➔ divides large trades into several smaller trades in order to manage market impact, and risk
- ➔ Example of strategies : VWAP, TWAP, ICEBERG
- ➔ A special class : High Frequency Trading



▣ *High Frequency Trading*

- ➔ Elaborates decisions to initiate orders based on informations that are received electronically, before human traders are capable of processing the information they observe
- ➔ Characterized by extremely short position-holding periods
- ➔ Examples: Market making, Event Arbitrage, Statistical Arbitrage



2010 Flash Crash, May 6

