

# Banking and Financial Services served by a data analytics solution

Ideal-Analytics is a suite of software tools to glean information and therefore knowledge, from raw data.  
Self-service, real-time, on-demand ad-hoc analysis and high performance exploration functionality  
with plug-ability, scalability & security, available in both SaaS and on-premise model

Banks are no more money-keeping agents of individuals. They are money-minders, money-lenders, money-managers, financial-planners, insurance-trustees, business-secretary and executor and future-builders. A post-modern person carries his bank with his parson all the time. A bank is actually the entire information repository of an individual, a corporate, a group, an association of interest. A bank is the identity and life-support of any economic agent that gets into any kind of transaction. |

***A finance agent:***

A bank transacts and underwrites or guarantees and therefore vouches the financial credibility of any transacting entity. This fact is the most modern instrument where individuals, agents or corporates who are not known to each other are certified as bonafide associates across the globe. Agents are therefore replaced in financial terms by the banks. Banking is the complete agent of service for transactions of any and all kinds. In fact wherever there is any money transaction there is a bank behind it.

***Data generator:***

Every elemental transaction generates data of various kinds, kinds that map

- a quantum of money with
- two or more transacting nodes,
- the transaction takes in a point-in-time,
- in one or two transacting currencies and
- under some regulations
- monitored and ratified by some national law or international convention
- and a delivery promise for the future.

The element of vouching for the future distinguishes banking transaction from all kinds of present point-in-time transactions that we call as cash. Banks are not meant to deal in cash for instant transactions though it also undertakes this case to ensure complete financial service to agents or nodes.

***Interest dealer:***

The beyond-cash transaction of banks necessitates them dealing in interests for the future. The sole incentive for banking transactions is the interest offerings to transacting agents a portion of which it takes out as a rent for the service it provides.

***Future-market dealer:***

Each such vouching therefore generates a set of transactions and each such element in that set is in turn a set of information. These information need to be connected, categorized, preserved, published and presented whenever needed. This makes the information as a commodity by itself. Every banking information in its atomic or elemental nature is thus a commodity traded in markets of different levels and hierarchies we call secondary, tertiary markets. Banks thus monetize information and trade them. Banks therefore are the most important players in shares, stocks, bonds, future-markets. Banks dominate the speculation market and speculation economy too.

***Economic agent:***

Modern economy is a finance-Capital economy whose main axis line is the financial markets of different levels. The economic activities like Production, distribution and consumption are all governed by financing through money. Banks regulate this entire economy through money supply. Money supply regulates the push and pull of demand in the market for produces causing moments of changes like inflation, depression, recession. These are the economic events through which our financial world navigates and the lives of every individual are governed thereby.

***Economy manager:***

Each one of these activities needs data monitoring and management. Banks are the best co-operating



authorities that has to work in collusion with every other bank across any political division. Therefore banking is playing in a co-ordinated arena with all other similar institutions based on common regulations and conventions. Banks therefore have to be repositories of economies in particular and in general - that of economic trends of changes and have to follow the technical changes in the money-market as we call it.

***Production volume and nature decider:***

Being the master of market it is in the final analysis Banks actually indirectly regulates total production value, corrects it to suit the consumption and even determines through much indirect process the nature of production along with the volume of each product in any economy trying to attain a stable state.

***Banks- the first data dealer and customer:***

Banks because of all the above need data management more than any other industry and need that first and foremost. Banks are information-dealers in reality. Information has to be categorized, collated as per categories, reserved in specified bins, readied for easy, fast and accessible format and presentable in every possible formation public would want. The speed of all these data management activity needs to be completed in split-second time as soon as they are generated. To Banks every bit of information is Capital and every such small to big quantum is as important as the other.

To have a pre-conceived set of bank knowledge artefacts is a veritable challenge due to its immense size, nature, pattern and variety. Bringing such a huge task on the table to be managed would require years and years of experience and pent up collection. The endeavor is self-defeating. The need however is all the more pressing, pertinent and ever growing in exigency. The only solution could be a tool that is bound-less, simple, fast, smart and unlimited in capabilities in deriving information as per the demand of the user that would use it in the future - A user whose needs and description of demand we would not know for certain- one who would be empowered with the freedom to use the tool at his own behest, in his own way, in the fashion (s)he conceives and formulates.

***Types of banking:***

Banks pay interest to allure funds from groups and individuals and then invest the same money at a differential interest rate. The differential is what the bank gains as service; they pay off their establishment cost, their function cost and get the profit ploughed back in the banking operation.

Banking operations are of manifold these days:

- ⤴ Retail or individual banking
- ⤴ Loans
  - ⤴ Individual
    - ⤴ for simple personal needs
    - ⤴ education loans and other special purpose personal loans
    - ⤴ for specified causes
    - ⤴ unsecured
    - ⤴ secured against
      - ⤴ money deposits
      - ⤴ wealth hypothecated
      - ⤴ certificates of future promissory transactions
      - ⤴ future work/wealth/market/assignments promised
  - ⤴ Projects
    - ⤴ Work-in-process
    - ⤴ Term loans
    - ⤴ against delivery milestones
- ⤴ Advances for agreed upon and underwritten projects



- ⤴ Discounted payments for assured future payments
- ⤴ Specified loans
  - ⤴ Vehicle loans
    - ⤴ Personal use
    - ⤴ commercial use
  - ⤴ Home loans
    - ⤴ Primary home loans
    - ⤴ Secondary home loans
    - ⤴ Amortized home loans
    - ⤴ loans against appreciated value
    - ⤴ loans against future speculative appreciative value
  - ⤴ other property loans
- ⤴ Investments in projects and other commercial endeavors
- ⤴ market investments in bonds/treasury bills/shares/mutual funds
- ⤴ investments
  - ⤴ in Present Commodity markets
  - ⤴ in future commodity markets
  - ⤴ In natural/endangered products
  - ⤴ in conservatories
  - ⤴ in Art products
  - ⤴ in creative endeavors
- ⤴ insurance markets
  - ⤴ Life insurance
    - ⤴ personal
    - ⤴ group
      - ⤴ family group
      - ⤴ work group
    - ⤴ medical
  - ⤴ travel insurance
  - ⤴ specialized project insurance
    - ⤴ commercial adventure [e.g deep water fishing, mining]
    - ⤴ hazardous work insurance
    - ⤴ accident insurances of different types
- ⤴ inter banking or inter corporate short term loans
- ⤴ Consortium loans for investing and underwriting IPO ventures for companies
- ⤴ Special advances to Venture Capitalists and related underwriting.
- ⤴ development loans to countries or international bodies.
- ⤴ Simple banking operations
  - ⤴ personalized saving banking
  - ⤴ current banking for money-minding
  - ⤴ overdraft line of credit
- ⤴ Banking instrument operations
  - ⤴ different card-instruments
    - ⤴ credit cards
    - ⤴ debit cards
    - ⤴ smart cards with complete information digitized
    - ⤴ specialized discount cards
    - ⤴ identity proof throughout the world
  - ⤴ different kinds of deposit accounts bearing interests
  - ⤴ recurrent deposits bearing different type of interests
  - ⤴ precious metal deposits subdivided into



- ⤴ one time
  - ⤴ recurrent
  - ⤴ certificates connected to market driven unit linked
  - ⤴ government instruments underwriting
- ⤴ Simple monetary transaction work at a service cost and/or for deposits for organizations - public or private.
- ⤴ Banks as professional business houses have their own staff to manage, pay off for their service and take care of their personal and group needs.
- ⤴ Banks as enterprises have vendor relations with service and resource providers.

**Orientation of banking data management:**

Managing data and inter-relating them has been the principal problematic in Banking Industry. There are now two approaches:

1. The traditional approach starts with the first operation of the introduction of the operation- that is Account. Every subsequent transaction bore the signature of the account along-with and was thus under-scored by it.
2. The present and much more encompassing approach is the customer orientation. A customer -present, prospect, or targeted is known and identified by the name or a special numeric that carried along with every transaction. A customer can have many accounts depending on the operation she undertakes and in this approach all such operations can therefore be connected in one pool and the cross-relationship studied. The health of one customer along with all the relationships it can possibly have can thus be centralized -examined n group, in separation through various drilling down and roll ups.
3. Customer->customer relationships, account->account relationships, customer->account relationships and customer->account->operation relationships can even be drilled down to customer->account->operation->transaction->time-stamp relationships.
4. Drill down to every atomic relationship can even aid in predictive offering of instruments and other service artefacts.
5. Certified connection passes with other service industries like the hospitality industry, health-care, education etc.

**Credit rating operation:**

Banks operate in distributed nodes throughout a very big geographical territory and beyond. A complete set of banking operation for one customer [individual or group] is a commodity that can be exchanged between negotiating banks and financial institutions. This set becomes the unit in what is the first production unit in Credit-rating industry. This is why banks have their associated CREDIT-RATING companies who deal in these kinds of complete information-set-as-a-commodity. An associated credit-rating company secures the information even against information-trading. The present laws of most countries inhibit banks to doll out complete customer information without legal contracts. Due to legal contracts banks encapsulate the information and exposes only template of information for such information-trading. These information trading may be securitized just like securitization of bad or doubtful loans that are traded in speculated markets. A financial or legal institution can only demand or request legally specified information from other banks about their customers and of course with full consent of their customers and/or inhibited or allowed by laws.

**Information to regulatory authorities:**

Every government is obliged to its citizen for the security of individual and group information and is also obliged to cater the necessary information as per the right-to-information of the land. The banks have to therefore provide information in atomic or group levels to the regulatory authorities in specified regulated periods. These information might require rolled up or even on-demand drilled down information from the technology to be used for managing data.





- ⤴ transient nature of the transactions and at the same time the importance of transactions that change the money value
- ⤴ Security of the transactions and visibility with respect to differing privileges.
- ⤴ Stringent regulatory rules
- ⤴ Differing format in representation, fast changing of currencies and arbitrage.

### Design time considerations:

This led us to think of handling data sets from open sources and with every hues and setting up on-the-fly relations to map them instantly and review the same data in the next needed moment from a differing perspective.

This led us also to contemplate on a solution capable of measuring a measure with respect to dimensions from other datasets from different sources and different types, and applications.

### The final rationale:

The rows of data would be very high and would keep on coming both due to front desk operation at the teller level and due to the back-office operations, so once an transaction value changes due to a customer request it would trigger subsequent operations manifold with or without any further customer request. We knew that and each such row had to have many columns associated. We could control the columns through judicious designs in business and in technological terms but we could not and would never be able to control the increase of rows.

Using such a humongous matrix in normal matrix manipulations posed such a prohibitive impediment that the rationale of business intelligence tool based on the sophisticated OLAP technique defeated the objective purpose. We had to think differently out-of-the-box. We thus converged to a technology unknown hitherto to the RDBMS community and yet wanted to take the shock off the shoulders of the user of learning something new. We came out with a technological innovation where we would use the most advanced state-of-the-technology mathematical technique and hide its intricacies from the customer who in fact would have the same comfort of writing or forming usual simple SQL type queries without much effort and lots of on-line help. The result is IDEAL-ANALYTICS [IA]. Data presentation had never been easier and smarter as he user would not have to look over his shoulder for an IT professional for help. She would do it own as she is the king of her own business logic.

### RESULT-- The speed and smartness

The result was phenomenal, exciting enough to share in the market with our partners, associates and customers. Speed that we gained legendary - with ordinary servers we could crunch terabyte sized data bases in minutes that used to take days in SAP or other business intelligence solutions the world swears by. We have achieved this feat because of many innovations fine-tuned through many trials and now have precipitated this solution through many tests and re-oriented tests. The smartness we achieved through slick, simple query building, through presenting them on-line and animated in the dashboard enamored our customers who dreamt to see this smartness for long.

### CAUTION not compromised

Our excitements did not get the better of us. We were extremely vigilant on the security question, security had to be provided in every transmission, in every viewing, in selective privileges of rendition and in very restrictive manipulations without a bit compromising on the existing dataset BUT at the same time not going through the usual approach of creating extra instances or databases for these purposes. This approach would have compromised with the currency of the data as shielding it off or creating different modifiable instantiations of



the data in intermediate data stores. We avoided that track very conscientiously. We wanted to work off only the transaction data store to keep the currency of the data intact and at the same time impose a layered architecture of access control logic on to the data store but taking full cognizance of the fact that even the DBA cannot and should not be able to change the data in any event or consideration. So although layered the coupling is more than the usually obtained ones in the market. Our scheme is very simple and is entangled in a restrictive entry.

We have our solution offered on an in-premise fully owned deployment or in a Software-as-a-Service cloud implementation. Where the users can access clouds dedicated to their service on various technical and commercial schemes that can be managed from their own office. This way the clients may not have to be bothered about the data storage operations in their premise. Freedom was the foremost consideration in our design considerations to be passed over to the customer. And we achieved it with our product solution IDEAL-ANALYTICS.





# idealanalytics

Analytics On-Demand

[www.ideal-analytics.com](http://www.ideal-analytics.com)

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