The Myth of One Version of the Truth

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The Myth of One Version of the Truth

Since the advent of MIS (Management Information Systems), the "Holy Grail" has been to create a single version of the truth: a single set of reports and definitions for all business terms, a way, in short, to make sure every manager has a common understanding of accurate corporate information. Most organizations have many different definitions of the business terms they work with on a daily basis. In fact, an entire industry has developed to help businesses be able to provide "one version of the truth"[1]. Today, a proliferation of vendors and consultancies exists to provide software, services, and skills to build data warehouses based on tools and techniques that help extract, transform, and load data, using Business Intelligence tools to exploit that data in many different ways, such as supporting management reporting, ad hoc querying and advanced analysis.

So why, after all these years, does this "one version of the truth" still elude us? This white paper will discuss some of the reasons and describe a surprisingly simple solution.

IN THE KINGDOM OF TRUTH, CONTEXT IS KING

Most of the time, when people describe their organization, they draw it as an organization chart, placing the CEO at the top and charting the various disciplines, divisions, or geographies underneath. This is also how management reporting as well as performance management processes and systems are viewed in most organizations. We say we "cascade" scorecards down into the organization. We "roll up" budget numbers. We "drill down" to see where deviations from the plan occur. And we "work our way up" the "corporate hierarchy." Each business domain only "reports up" to strategic objectives, and most of the reporting is "self-reporting," that is, reporting based on a business unit's own data. Typically, managers are not aware of what their peers report, and neither will senior managers—two levels higher—be intimately aware of the subtle detail either.

With this method of structuring information, it is no surprise that countless projects have tried to identify various versions of the truth, and then collapse these into a single definition so that all business departments can align around the same definitions of crucial terms. Unfortunately, these exercises are rarely successful and, in fact, most of them are misguided.

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[1] This white paper is based on Buytendijk, "Performance Leadership", McGraw-Hill, 2008

There is a surprisingly simple solution to the "one version of the truth" problem, if we take a more process-oriented approach and look at the business from a value-chain point of view. In The *Future of Work*[2], Professor Tom Malone compares business with the evolution of political systems from kingdoms to democracies.

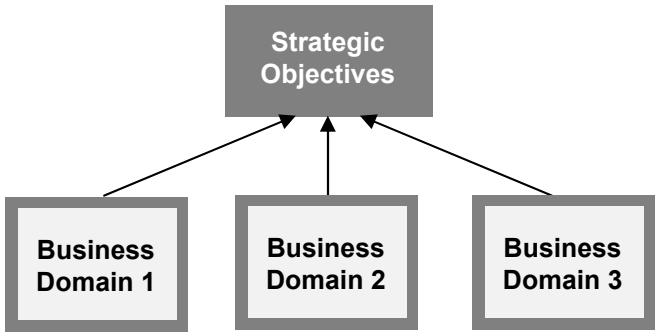
The kingdom structure is vertically aligned-the people all respond to the king. Historically, due to a lack of efficient communication infrastructures, such as the ability to read and write, people could not communicate efficiently with each other. With the invention of the printing press, and more recently the pervasiveness of information technology, democracy has become the dominant model. However, democracy is only a sustainable model if in addition to top-down, there is also bottom-up and sideways communication. In business terms, we can make the same comparison between vertical and horizontal alignment.

In order to get a shared understanding of the business and a shared feeling of responsibility, horizontal alignment is vital. Figure 1 shows both horizontal and vertical alignment between various business domains.

Due to the traditional vertical definition of "alignment," most management reporting and performance management initiatives are still in the kingdom phase. However, using a process-oriented approach to help create horizontal alignment, multiple versions of the truth actually make sense. If a term is closely connected to the core of the business, there are many business functions that have their own unique view of that term. To put it bluntly, if a business department does not have a unique view, what value is it adding to the organization?

There is a reason why many businesses have multiple definitions of common business terms such as revenue, number of employees, and number of customers. There may also be industry specific terms that have many different definitions, such as 'flight' for an airline, 'mile' or 'kilometer' for a taxi company, 'student' for a university, 'transaction' for a bank, and 'hour' for a consultancy company. In short, we've uncovered an immutable law:

2 Malone, Thomas W. The Future of Work: How the New Order of Business Will Shape Your Organization, Your Management Style and Your Life. Cambridge, MA: Harvard Business School Press (April 2004), chapter 2.



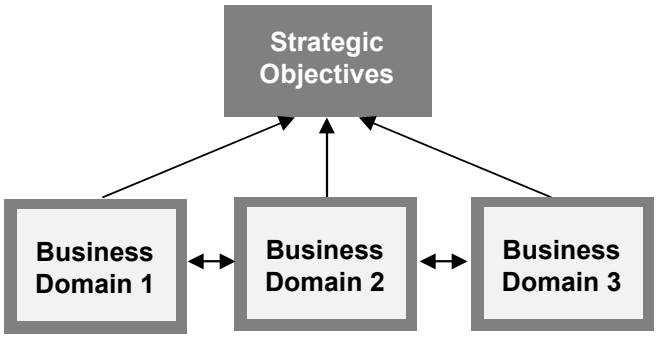


Figure 1: Horizontal and Vertical Alignment

From One Version to One Context of the Truth

The More a Term is Connected to the Core Business, the More Definitions of it Exist

This doesn't mean that every single definition is valid and should be preserved—in fact, many definitions may be redundant. The real question is how does an organization decide which definitions are valid and which are not. Valid definitions, placed in the right order, constitute "One Context of the Truth."

Working with organizations all over the world, we have found many examples of how to solve the "one version of the truth" problem, while at the same time improving business insight. In this whitepaper, we have illustrated a number of examples:

Valid definitions, placed in the right order, constitute "One Context of the Truth."

- The software industry, dealing with revenue definitions
- A European railway company, managing multiple definitions of the term "train"
- A mobile telecom operator, dealing with Average Revenue Per User (ARPU)

Types of Software Revenue	
Gross Revenue	List price times number of licenses, servers or concurrent users
Net Revenue	Negotiated price
Net Own Revenue	Net revenue, minus royalties to third parties
Recognized Revenue	Accepted bookings in the finance system
Revenue US GAAP	Revenue according to U.S. accounting rules
Revenue Local GAAP	Revenue according to country specific accounting rules
Management Revenue	Total Revenue for a region including revenue coming from other regions or countries for local customers, excluding local revenue for customers belonging to other regions or countries
Commission Revenue	Total Revenue matched against a sales person's targets
Invoiced Revenue	Revenue minus last minute changes
Statutory Revenue	Revenue as reported to the outside world
Fiscal Revenue	Revenue as reported to the tax office
Revenue For Value Added Tax	Revenue as reported to the tax office
Cash Inflow	Technically not revenue, but the last metric in the process.

- Retail banking, dealing with money transfer transactions

THE SOFTWARE INDUSTRY

Typically, in the software industry (in contrast to manufacturing industry, for instance), the sale price of a product—a software license—is indirectly linked to the cost of goods. This usually leaves room for negotiation between the vendor and its prospective customers. Price discounting is often connected to the seniority and management role of the sales executives in the company.

This process, before a quote lands on the customer's desk, is very well managed in most software companies. Many versions of the truth come into play after this point. The sidebar shows an example of various types of revenue. These are often

indistinguishable and are just called 'revenue' in the plethora of management reports.

How do your decisions impact colleagues elsewhere in the process?

With vertical alignment in mind, it makes sense to push for "one version of the truth"—one single definition of revenue for everyone. But, when we consider horizontal alignment, having different versions of the truth provides additional insight and this insight *only occurs* if the different versions of the truth are placed in context. One way of doing this is to create a horizontal revenue report, a report for country managers, for example. A report based on this approach might look like figure 2, below.

	Actual	Minus	Plus	Description
Gross Revenue	10.000			
Net Revenue	7.500	-2.500		Discounts
Net Own Revenue	6.000	-1.500		Royalties
Recognized Revenue	5.500	-500		Not recognized this period
Management Revenue	6.200	+1.000	-300	From / To Other Countries
Commission Revenue	6.800	+600		Double commission (overlay)
Invoiced Amount	8.000	+500		Future Revenue
Cash Inflow	8.800			Paid from prev. periods
Statutory Revenue	6.300			
CIT / VAT Revenue	6.600			

Figure 2: New Revenue Report

The country manager may see that the difference between Gross Revenue and Net Revenue is about average and thus discounting has been kept within the normal range. However, if we also subtract royalties, he may consider Net Own Revenue to be rather small. The software sold contains components for which royalties are paid to a partner. By itself, this is neither good nor bad. It decreases margin, but may indirectly improve the value of the relationship, potentially leading to acquisition of the partner, and therefore increasing overall revenue and profitability in the longer term.

The gap between Net Revenue and Recognized Revenue can mean different things. Usually, it is caused by revenue being recognized in future periods, such as maintenance or consulting services. This is perfectly normal. But, it may also tell the manager to what extent internal processes are in order. Errors in the sales negotiation process could cause this revenue not to be recognized immediately.

There is also an interesting gap between Management Revenue and Commission Revenue. Ideally, Commission Revenue adds up to Management Revenue. This ensures that the sales compensation structure (which is located on the cost side of the equation) is aligned with Management Revenue. However, there might be Overlay Revenue, where two sales people (such as an account manager and a product specialist) each receive 100 percent commission based on the same sales transaction. Alternatively, there may be revenue for which no one receives commission. Too much overlay revenue will lead to a margin problem.

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Analyzing differences brings deeper insight.

Lastly of course, there is Cash Inflow. Although the country manager may have had a few good quarters, if customers pay late, certain crucial financial obligations become difficult to maintain, such as paying suppliers and employee salaries. Why is this happening? It could be symptomatic of issues with credit control, customer satisfaction, lack of implementation resources, or customer solvency.

These insights can help the country manager to make partner management more successful, by focusing on sales where royalties are included. Or conversely, the country manager will see that he is potentially jeopardizing an important partner relationship by staying away from those sales. The country manager also sees statutory revenue and taxable revenue. This insight is valuable for the country manager in his relationship with the financial director or CFO, who needs to deal with the tax office, the regulators and shareholders. Insight into patterns of these types of revenue is important, so that operational managers can see the impact of their decisions on external stakeholders, and how these ultimately impact on the market capitalization of the company. Feedback of this kind adds another type of alignment over and above horizontal and vertical. It helps align external stakeholder perception of the company with the company's own internal perception of its performance.

By organizing the different definitions of the term revenue in a flow, we can see the existing definitions that make sense and lead to alignment. And those that add to confusion. The former definitions should be kept with the latter eliminated.

This revenue report, with its different definitions of revenue, has created the long-awaited single version of the truth…or rather, "One Context of the Truth." There are no synonyms possible anymore, as all terms appear in the same report, and the combination of these represents a single flow of revenue.

EUROPEAN RAILWAY COMPANY

The key term in the railway business is "train." Different definitions abound, much like the term "flight" in the airline sector. High regulation adds to complexity and many stakeholders have a role to play. Typically, a train company has a government license to operate a train schedule. The rail infrastructure is often managed by a separate organization. Perhaps one or both are government owned or privately held. Each stakeholder, internal or external, will have a slightly different view of the core business. Let's explore a number of different views of what constitutes a train using the example of a major European country railway system.

Definitions of the Term "Train"	
Passenger	Journey between the passenger's departure and destination train station, potentially "changing trains" one or multiple times
Regulator	A timetabled "train" which runs between a line's departure and destination station, running multiple times per day
Operations Planners	Scheduled trains plus maintenance movements and empty trains traveling to reach a new scheduled departure station
Staff planning	Scheduled number of trains per shift
Operators	Actual, including unplanned, train movements
Infrastructure	Slots, a time window in which a train is supposed to travel

For passengers, a train consists of a set of carriages, pulled by a locomotive. This "train" takes passengers from one train station to another. One might think this definition equates "train" with a journey. However, a train passenger may have to "change trains," and thus take multiple trains to get to a particular final destination. Already differences in term definitions emerge, that is, this isn't the same information that is held on the train ticket. So, for every 1,000 completed journeys the rail operator sells, travelers may utilize 2,500 trains.

At the political level (since many train companies are regulated by their respective governments), a train is a physical entity (a set of carriages pulled by a locomotive), that takes passengers from departure to destination station, and stops at a number of intermediate stations on the way. It does this frequently during a single day. So

for every 1,000 passenger train journeys, 100 physical trains may be needed. While 90 of these might be supplied by the national railway company, the other ten could be managed by an international operator.

Operations planners have their own unique view of the situation. Even though they may well define "train" in a similar fashion as outlined above, they may require 120 physical trains to provide the 90 trains needed to meet journey requirements. This is because some train movements are needed to transport an empty train to its next departure station. Or, in addition, a train will need to go for maintenance at certain times. Planners may not necessarily recognize all movements—for instance, those within a maintenance facility. In these cases, an official train driver is not always needed—a certified maintenance technician will do just as well.

Then there is the staff planning process. The 120 trains required by operations planning can be broken down and combined into driver "shifts." A driver needs a number of trains per shift to meet his work requirement. From the point of view of personnel, 200 of these driver shifts may be needed—for instance, when two drivers are required to operate each train.

Within these shifts, a driver may potentially have access to 400 possible trains for operation. Thus the driver's definition of a train is similar to, but not exactly the same as, that of a passenger.

Operators monitor train movements to make sure the overall train timetable is fulfilled. If there are problems, operators are responsible for coordinating extra trains and staff. For instance, 130 trains may be needed to meet the demand for 120 operational trains.

Railway operators must closely collaborate with infrastructure companies. The infrastructure planning department oversees all railway companies and tries to optimize the use of the network (as opposed to the efficient running of the published timetable). Traffic control monitors all train movements from all railway companies, but may also manage a few maintenance trains for scheduled maintenance on some tracks. Where the railway company may see 130 trains, traffic control sees 230 trains (including maintenance trains). There is also a financial relationship between the infrastructure company and the railway operators (who need to pay for use of the infrastructure). However, this is not based on trains, but "slots." The number of trains and the number of slots many not always be the same—instead of 130 trains, there may be 140 slots.

Undoubtedly, within each viewpoint such as infrastructure, scheduling, operations, and so on, there are additional multiple definitions catering for specific exceptions—namely historic factors, lack of alignment, and other causes. The term "train" is without doubt the one with the most definitions across a railway business—both with its internal and external stakeholders. The problem is that all these definitions co-exist. Reporting lines are almost all vertical in nature as each unit self-reports to senior management, who, in some cases, may be less aware of

the subtle differences in definitions. As a consequence, the numbers "don't add up." It becomes hard to reconcile an invoice from the infrastructure company with an operations report. How do you discuss the workload of the engineers with the unions, based on the information of the scheduling department?

Thus, trying to reach a single version of the truth, with a single definition of the term "train," is nearly impossible. However, the problem is relatively easy to solve if we leave behind the idea of vertical alignment, and organize the various definitions from a horizontal point of view. Various internal and external stakeholders can be aligned in terms of a value chain. The value chain begins with the government's demand plan. The scheduling function translates this into a new schedule, to be managed by operations. Infrastructure tracks all operations. Drivers operate trains to service passengers, that is, the ultimate end customers.

Eliminate overlapping reports.

This value chain can then be organized into a single report. Figure 3 shows how this might look, with fictional data showing how the numbers for various definitions compare.

	Number of Trains
Demand	100
Planning	120
Staff planning	200
Operations	130
Infra Planning	120
Slots	140

Figure 3: Number of Trains Report

Working within this "single context of the truth" has a number of immediate advantages. It eliminates a great deal of overlapping reports, each with slightly different definitions and without broader context. By reducing the number of reports, the horizontal alignment approach provides a benchmark about which definitions are unique and recognized and which that can be eliminated. For each step in the value chain, there is a logic in having a specific definition. However, it doesn't make much sense having multiple definitions within the value chain, and redundant ones can be eliminated.

Moreover, through a horizontal alignment approach, these definitions have become more transparent and comparable. There is value in analyzing the differences. It is important to minimize the difference between the demand plan, and operations. The difference is in planning efficiencies and the number of incidents and accidents. The closer the number, the more optimized the plan is. Then the difference between operations and the staffing plan needs to be minimized, allocating scarce human resources as efficiently as possible.

In summary, within the "single context of the truth," with all relevant definitions in a single report, the problem of making it all add up is solved. In addition,

horizontal alignment also achieves something even more important: deeper insight into operational efficiency.

MOBILE TELECOM OPERATOR

In the previous two examples, "one context of the truth" started to make sense when it was interpreted as a value chain and a linear relationship—which is very typical for simple metrics such as "revenue" and "train." However, if the performance indicator is a ratio and composite in nature, it usually makes more sense to view versions of the truth as a matrix.

Ratios lead to a single matrix of the truth.

Let's look at another example—mobile telephony. One of the most important performance indicators in the telecom world is ARPU, which stands for Average Revenue Per User. As with any term highly connected with the core business, there are many different definitions of ARPU.

AIPU	Business ARPU	Reporting ARPU	Analytical ARPU
• Subscription Fee			
• Bundle Fee			
• Options Fee			
• Minutes			
• Roaming			
• Value Added Services			
• Data Services			
• Incoming Revenue			
• Roaming Visitors			
• Corrections on Previous Month			
• Continued Corrections			

Figure 4: Visualization of ARPU Definitions in a Mobile Telephone Company

The AIPU describes the average invoice a customer gets for use of his or her mobile phone. There are various revenue categories that contribute to this invoice based on the type of contract. For subscription users, these are the basic subscription fee, the bundle fee, the fees for the various special options (such as text messaging), roaming fees (revenues generated by the subscribers on other networks), revenue based on call minutes, from "value added services" (such as paid 0900 numbers), and data services. The income from prepaid phones mainly comes from actual minutes spent with prepaid credit.

Clearly there are a myriad of kinds of possible discounts on various fees and possible promotions. Based on IFRS regulations, among others, these are sometimes seen as costs, and sometimes deducted from invoiced revenue. The combination of these various fees and discounts leads to the AIPU.

There is also another revenue stream, which comes from other telecom operators. Every time a customer of the telecom company is called by a customer from another operator, interconnection revenue is generated. This amount can be as high as 20% to 30% of all revenue per user. As it is not shown on the invoice to the customer, it is not part of AIPU. The combination of AIPU and interconnection revenue is called "Business ARPU."

Subscribers of foreign telecom operators generate traffic within the network. The resulting revenue stream is called "in-roaming revenue". To make matters ever more complicated, these revenues are equally split over users and contribute to their ARPU. Therefore, the ARPU ratio is not "clean" any longer, since the ARPU contains elements from non-customer users. Furthermore, every month there are corrections since not every telecom operator is able to send a daily update of call detail records of the in-roaming or interconnection revenues. Every month these revenues are estimated and later corrected with actual numbers. As these estimations are aggregated but not calculated at the subscriber level, the final overall ARPU number reported at monthly closing is not completely precise.

In general, "Reporting ARPU" is equivalent to the Business ARPU plus in-roaming and corrections on previous months. Working with "mobile virtual network operators" (MVNOs) who only buy minutes on the network, means a further expansion and complication of the reporting ARPU.

And additional corrections may come in more than a month later. Although these are not material in nature, they need to be processed and allocated to the month they relate to (and not to the month in which they came in). This updated number is referred to as the Analytical ARPU.

Unfortunately, it becomes even more complicated as there are also multiple user types. A user basically equates to a phone number. Thus, a customer can be multiple users, and business customers can consist of multiple individual customers. The biggest impact on ARPU, however, is the definition of a user who is "active" or "inactive" because the ARPU ratio is sometimes based on active users. When does a user start being active? At the moment the phone number is activated? Or at the moment the first call is made? Or when the first text message is sent? Or, in the case of prepaid users, at the moment when credits are bought? And when does a user stop being active and become inactive? At the end of a contract? This may sound logical, but given the warranty on phones, for example, there may still be a legal relationship. Or in the case of prepaid, does a user become inactive when no calls are being made any longer? What about simply receiving calls or "spam" text messages? What about the credit that may remain? Or should users that are temporarily shut off be counted because the invoice has not been

paid? And how long must the period of inactivity be before a user is considered inactive?

Within "ARPU," what is an active user?	What is an inactive user?

• Operations:
  • After a first call has been made
  • First text message sent
  • Receives a first call or text message
  • Activates SIM card
• Finance: date of sale, or after credits have been delivered
• Legal: after the contract starts
	• Operations: not making or receiving calls within a period of time
	• Finance: expiration of contract
	• Legal: when warranty on phone ends

Creating one version of the truth does not lead to more insight.

The moment we try to create "one version of the truth," the result will be less rather than *more insight*. First, we won't be able to analyze the differences among the operational, financial, and legal views on active users. These differences are important indicators for the health of the company. Secondly, in the current list of harmonized ARPU definitions, at the "Reporting ARPU" level, the definition is not clean anymore, due to non-customer allocations. In-roaming revenue from other networks is allocated to the ARPU of true customers. The more you try to align the Business ARPU and Reporting ARPU, the more these allocations would need to catch all facets of revenue. ARPU then becomes a complete black box.

So how does "one context of the truth" work in this environment? At the highest level, there are four different revenue components: Fees (including various roaming fees), Discounts, Incoming Revenues and Corrections. There are also three different user types: active users, total users, and users from other telecom companies. The full context unravels when we plot the revenue items and user types in a matrix, as shown in Figure 5.

	Active Users	Total Customers	Non-customers
Fees	1,900 mln	+60 mln	+250 mln
Discounts	-170 mln	-90 mln	N/A
Incoming Rev.	+480 mln	N/A	+30 mln
Corrections	+20 mln	+ 15 mln	+5 mln
Total	**2,230 mln**	**2,215 mln**	**2,500 mln**

AIPU	= 1,900 mln divided by the number of active users
Clean ARPU	= 2,215 mln divided by the total number of users
ARPU incl. allocations	= 2,500 mln divided by the total number of users

Figure 5: ARPU Matrix

The revenue matrix helps us examine the health of the company.

Now we have a single "context of the truth" and we can analyze the various components for deeper insight. The higher the percentage of total revenue and ARPU for fees and incoming revenues from active users, the better it is. This is revenue you can influence customers you engage with. The higher the roaming revenues from customers from other telecom companies and the higher the incoming revenues, the more you depend on others. Although part of the business model, this revenue needs to be managed differently. It shows there is some revenue coming from inactive users, but that the discounts are higher than this revenue. The business case for making inactive users active again, or finding out how to minimize discounts to inactive users becomes very clear. The matrix serves as a risk management model as well. The higher the percentage of revenue is towards the bottom right of the matrix, the higher the risk, particularly if the amount of corrections increases.

Within the same "context of the truth," we can expand our insight as well. For instance, we could start aggregating users to a "single customer" level. Or we can use the matrix to include other relevant information, particularly *contribution* per user, by adding direct cost categories, such as the interconnection fees that the telecom company pays to the other telecom operators, and promotion categories, to understand the cost of marketing and the impact on user contribution.

RETAIL BANKING

There is no such thing as "the banking process." Retail banks have essentially two main sources of income. First, they earn money with interest. On one side, banks attract short term deposits by supplying a lower percentage of interest, for example, savings accounts. On the other side, banks supply loans, mortgages, life insurance, and other financial services for the longer term—charging a higher percentage of interest. The difference between the interest received on loans and supplied on deposits is the margin. Secondly, retail banks charge fees (provision)

for services, such as cashing checks, credit card fees, buying stock, mortgage fees (as well as interest margin), and so forth.

One of the most common terms in retail banking operations is "transaction." In this example, we will concentrate on one process only: money transfer. People withdraw money from ATMs, use Internet banking to transfer cash (both national and international), shift money between their current account and savings or stock accounts, and purchase a wide range of other financial services. Every retail bank has a vast array of reports around the number of these transactions and their monetary value, broken down by business unit, product and most probably geography. But how many reports really exist that combine those definitions, to closely align with the various steps in the money transfer process?

The first benchmark for getting insight into transaction streams is to know the number of customer contacts, throughout all channels. This would include bank branch counter staff, ATMs, call center personnel, the Internet, and—for the more complex transactions—account managers. Not every customer contact would lead to the next step: a transaction. A transaction equates to any money transfer-related activity that the customer would like the bank to carry out. It would probably exclude sending brochures, but may very well include opening up a savings account or changing an address or modifying other personal information. It is not uncommon for a single customer contact to lead to multiple transactions.

The vast majority of transactions would involve some kind of actual money transfer—the basic business process in this example. However, there is a difference between the number of transactions taking place internally within the bank and between other banks. For instance, money transfers between customers of the bank could be done internally, and don't require a clearing house, although this could differ per country and bank. This means the number of transactions between banks—net transactions—is much smaller than the total number of transactions triggered by the customers.

Not every transaction may be accepted. Some will be rejected. This could be due to accounts or credit cards being overdrawn, mistakes within the account (some bank account systems use an internal algorithm to validate bank account numbers), or internal warning systems that flag potentially fraudulent transactions.

Differences can occur when counting transactions over a time period such as a week or a month. In many cases there is a clearing timeframe, for instance for processing checks. This means a "transaction" has a transaction date and a clearing date. Thirdly, there is an interest date, that is, a date on which the transaction starts to accrue interest. This can be interest charged, for instance, for loans or being overdrawn, or interest that is paid, for instance, for savings accounts. Weekend transactions can also add to the differences. Not only can these lead to variances in management reports, they can have an impact on compliance regulations coming from the Basel II Accord on operational and financial risk management.

Although the differences are most likely not material over time, counting transactions in any of these ways will lead to different results. For instance, counting transactions per week using the clearing date will include all transactions with a transaction date from the previous week, but a clearing date within the current week. However, it will not include all transactions with a transaction date of the current week, but a clearing date of next week. The third definition, interest date, further complicates this issue.

Lastly, not all transactions may be accepted by the bank on the receiving end. Perhaps an account is blocked, or doesn't exist anymore. This will again lead to a lower number of transactions, namely, the amount of successful transactions.

Although from an operational point the story ends here, the impact of transactions goes beyond the core business process. Transactions need to be stored in various information systems, leading to a number of new records for each transaction. And in the end there is an impact on the bank's financial department, where the collection of transactions leads to journals in the general ledger. All definitions and shapes of a transaction, between the first customer contact and the general ledger of the bank, are connected.

In the previous examples, we pointed out that connecting these definitions within a single report helps separate valid and invalid definitions. This brings new insight into the efficiency of core business processes by analyzing the differences and helps operational managers see the financial impact of their decisions. The example of bank transactions shows another advantage: it provides a predictive view on the business. Sudden changes in the number of customer contact instances will predict the workload for later steps in the value chain. Figure 6 shows a fictional graph on the flow of transactions.

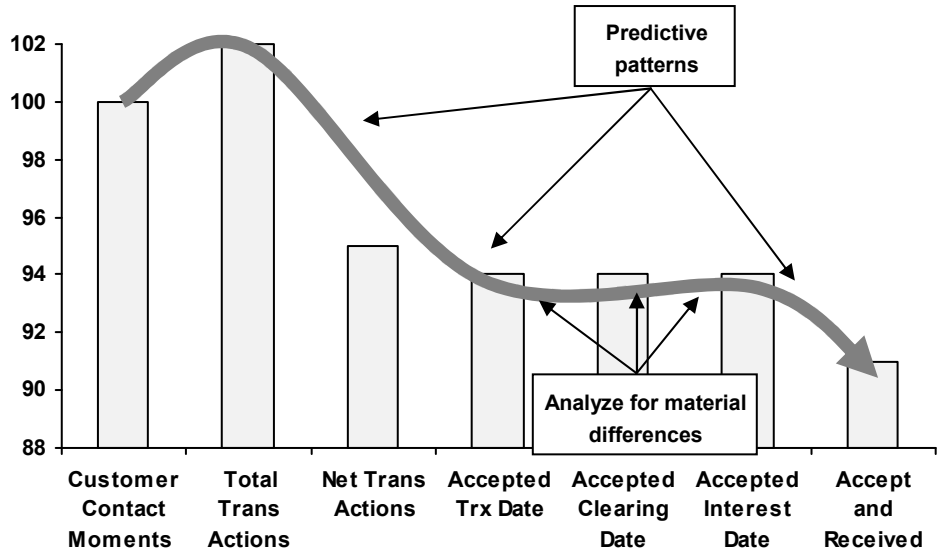

Figure 6: Retail Bank Transaction Patterns

HOW TO DELIVER ONE CONTEXT OF THE TRUTH

As we have seen in the previous examples, adopting a horizontal alignment approach can bring about real insight and greatly enhanced business performance. But how can this be implemented practically? A key barrier to implementing a horizontal approach to alignment lies in the current vertical structure of management reporting and performance management processes and systems, leading to information that cannot be reconciled or compared.

Adopting a horizontal alignment approach can bring about real insight and greatly enhanced business performance.

Our previous examples have already provided a demonstration of how management processes and business scenarios structured horizontally can provide greatly improved insight into an organization:

- In the software company example, understanding how to define revenue, which allows account managers to understand the financial consequences of their operational sales decisions, can lead to changed behaviors that are more fully aligned with strategic objectives.
- In the railway company example, gaining deeper insight into operations is possible through a horizontal value chain and a methodology that provides an understanding of what drives operational efficiency.
- In the mobile telephony company example, breaking out average revenue per user, helps us evaluate the quality of revenue and gain deeper insight into what average revenue per user actually means.
- In the retail banking example, transaction volumes can be predicted by understanding existing patterns and using forecasting algorithms.

All our examples show that taking a horizontal alignment approach to "One Version of the Truth" separates the wheat from the chaff. In other words, it helps reduce the number of reports and definitions dramatically. Many different definitions have been created for historical reasons, or because people were not aware of any other relevant definitions, or perhaps for political reasons. With the "One Context of the Truth," every business department will see where it adds value in the chain and each can concentrate on the definitions that make most sense.

With the "One Context of the Truth," every business department will see where it contributes within the value chain.

This situation thus creates a window of opportunity for a technology solution that can address both the problems and opportunities outlined above. The only way to maximize the benefits of a horizontal alignment approach is to focus on the total picture—information management, information production, and information delivery that ensure consistent information, and the ability for users to analyze and repurpose data. It should also provide integrated, open, and scalable solutions that combine operational and financial information.

From an **Information Management** perspective, delivering transparent information access is critical to obtaining "one version of the truth." We need the ability to integrate with other systems through data integration management

capabilities. In order to compare the data for the various versions of the truth throughout the value chain on different levels of aggregation, we need to have a solid master data management (MDM) capability.

As it relates to the world of analytics, **Information Production** must provide powerful answers to business questions, such as the ability to turn data into information through calculation, aggregation, allocation, and extrapolation. We also require integrated operational and financial information. In both the mobile telecom company and retail banking examples, the ability to look at past and present while predicting the future through sophisticated analytics and planning is crucial.

And **Information Delivery** must support making Business Intelligence pervasive and accessible, so support for existing delivery requirements and maximizing the ROI of tools such as Microsoft Office is essential. Not least, of course, is the need to innovate the delivery of information through search, mobile devices, and "always on" delivery vehicles.

The Myth of One Version of the Truth
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Author: Frank Buytendijk

Oracle Corporation
World Headquarters
500 Oracle Parkway
Redwood Shores, CA 94065
U.S.A.

Worldwide Inquiries:
Phone: +1.650.506.7000
Fax: +1.650.506.7200
oracle.com