

Issues of Data Quality for Managing Customer Relationship

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ABSTRACT

Larry p. English (1996) was not wrong in stating that “ Inaccurate data about one customer cost an organization a \$2.5 million lawsuit” that defines the importance of data quality. Ensuring high level data quality is one of the most expensive & time consuming tasks for an organization. Data integrity has become important because of current focus on better customer relationship management (CRM). Organization receives data from various touch points like point of sale , internet forms , web based applications, direct sales etc. , which gets doubled every year. Data received is in different formats, integrating and maintaining quality of this data is a tough task.

Keywords: *Data , Data Quality , Dimensions.*

1. INTRODUCTION

In order to survive and succeed in today’s highly competitive and turbulent global environment companies are investing a huge amount in terms of time and money to implement Customer Relationship management (CRM) , Business intelligence (BI) and Data warehouse (DW). In spite of outsized efforts the desired outcome is not obtained because of poor data quality. Significant amount of productivity is wasted resulting to financial losses to business. Poor data quality can impact an organization in many ways. It can result in misguided marketing promotions being sent to the wrong consumers with incorrect data – including improperly spelled names, title and company.

Data is an ever changing entity of an organization which is a bottle neck for achieving quality data. Experts says 2% of records in a customer file become obsolete in one month because customer die, marry or move. Data quality needs to be persistent and continuous.

2. DATA QUALITY DEFINITION

Data quality is the process and technologies involved in ensuring the conformance of data to the values and requirements of the organization or in other words “consistently meeting customer’s expectations”. Data quality is not linear and has many dimensions like interpretability, usefulness,

- Data usage :- checking how and where

accessibility, and validation. Having data quality on one dimension is as good as 'No Quality'. None of the Data Quality dimensions is complete by itself, and many a times dimensions are overlapping.

3. DATA QUALITY DIMENSIONS

According to Wang et al.1995, various dimensions of data quality are :

1) Interpretability: - means how the way data will be deduced

- Origin:- source from where the data has been collected
- Syntax:- structure and other basic fundamentals characteristics of the data
- Semantics:- checking of logical and data entry mistakes
- Version control:- saving all the changes made to data and passing Information to all concerned.
- Aliases :- checking of unwanted duplication existing within or across systems

2) Usefulness:- importance and value of data

- Relevancy to the DW :-checking the quality of data and relevance of the data to business needs

the data will be used

- Timeliness :- checking which data are current and available for use
 - Source currency
 - DW currency
 - Non-volatility

3) Accessibility:- availability of data to the concerned department according to permission allowed.

- System availability
- Transaction availability
- Privileges :- which whom data can be added, updated and maintained

4) Validation:- data matches the standards defined

- Completeness :- checking of the availability and detail of data compared to the total data universe
- Consistency :- checking the equivalence of information stored or used in various data Synchronization stores, applications, and systems, and the processes for making data equivalent
- Credibility :- checking the data entered is authentic
- Accuracy :-correctness of the content of data, which requires an
- authoritative source of reference to be identified and accessible

Ideally all these dimensions should be followed for ensuring Data quality, absence of dimensions may cause following errors or variations in database.

4. CASES EFFECTING CUSTOMER RELATIONSHIP DUE TO POOR DATA QUALITY:

4.1 Education Institute – In an educational institute fee of the students are submitted on the basis of their roll numbers. Due to poor data quality in terms of updation it faced a big problem. One of the student, with roll no. 101 was transferred from section A to Section B where she was allotted the roll no. 201 of some

other student who had already left the institute. The student submitted the fee of next semester based on her new roll No. 201 as the data (roll no.) was not updated in the accounts department her fee was accepted as per the new roll no. (201). At the end when the list of defaulter was found out by accounts department, roll no. 101 with her name was there. She was sent reminders but she ignored. Finally a letter was issued to her father stating that her name had been struck off because of nonpayment of fee which created utter confusion and negative word of mouth for the institute, effecting its brand image.

4.2 Airlines – An airline company issues loyalty card to its passengers & classifies its customers into silver, gold & platinum categories based upon the points accumulated. The points depends on their total number of miles traveled. The services rendered to the passengers depends on the points accumulated. One of the passengers who was earlier in silver category moved to gold card category as per his last travel points.He could not get the benefit as the date was not updated & his card showed his previous points only.

4.3 Retail sector – Two consumers with same name & different surnames logon to the websites for online purchase of items. One of them opt out future communications from all channels & the other opt in to allow future communications from all channels.The telemarketing operator calls the first one because of data inaccuracy which disappoints the other one by not following her request to be informed.

4.4 Insurance – In an insurance company, a customer had initially opted for quarterly payment of his installments. He changed his mode of payments to Annual payment by making a telephone call to their customer care department.

He was told that his mode has been changed. He paid his next installment as per the annual mode, which was less than the total of his 3 quarter installments. At the end of the year he

got a mail to pay the balance amount with interest, which hampers the trust and created dissatisfaction in the mind of customer.

Variation or error	Example
Sequence errors	ritu aggrawal written as aggrawal ritu
Involuntary corrections	deepshika written as dipshikha
Concatenated names	priyasaurabh written as priya saurabh
Nicknames & aliases	deep written for deepshikha, deepa, deepika
Noise	fullstop(.), blank(), titles(~), slash(/)
Abbreviations	mgt. instead of management
Prefix & suffix	subway written as sbway or subwy
Spelling & typing errors	four son written as for sun
Transcription mistakes	Amul written as Annul
Missing or extra tokens	Mani M. Mahalingam written as Mani Mahalingam
Unpredictable use of initials	Ram Kishan written as R.K
In accurate dates	12/10/2010 written as 10/12/2010
Phonetic errors	what written as wat

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