

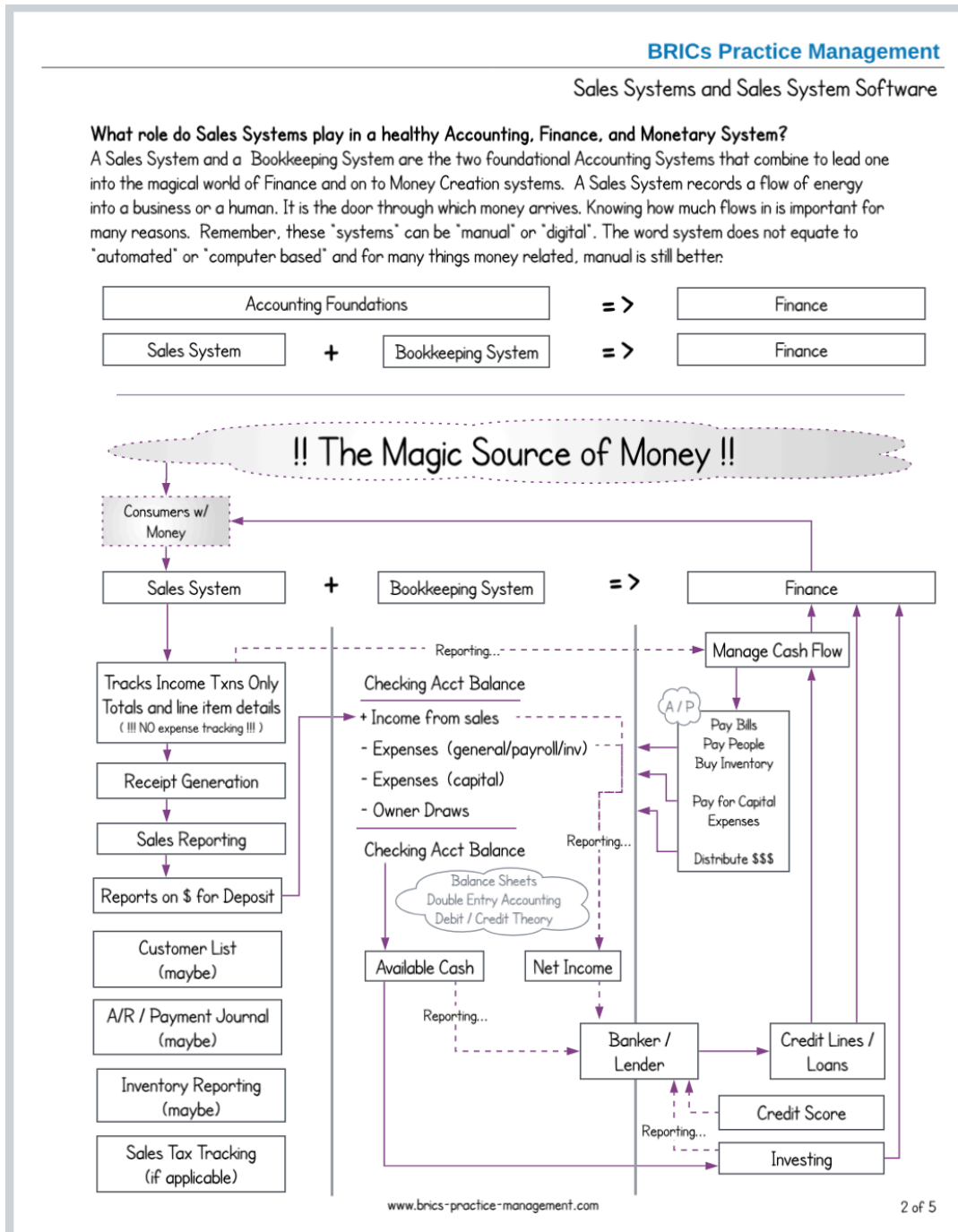
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Pre-reading - The Why-What-Who LucidChart Presentation

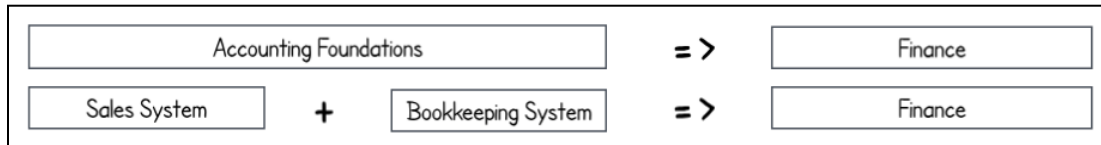
We encourage you to skim or read the Why What Who LucidChart Presentation prior to reading this document. It provides a larger picture view of what sales systems are and why learning about this is important. Some of that information and some images are repeated from that document.

<https://lucid.app/lucidchart/61834c70-b18b-4cb2-a0b9-e7925b46ca31/view>



What is a Sales System?

A Sales System is one of the two Foundational Systems required to perform the Accounting Management for a Business or even an individual. Both of these systems should be understood prior to trying to delve into finance and they can be learned with minimal effort, with our offerings.



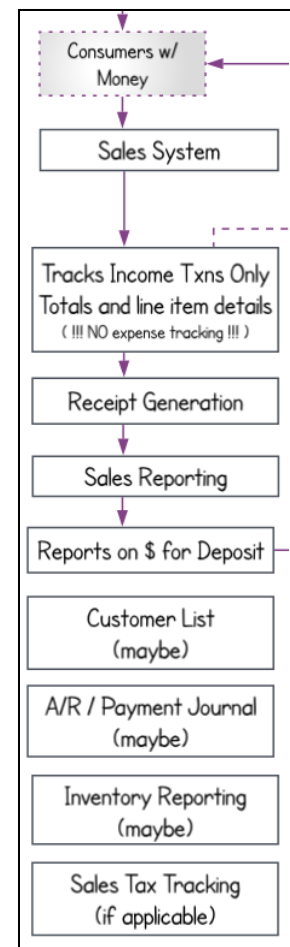
A Sales System is a manual or digital system that tracks the Sales of a Business. The word system does not imply digital. It is indicative of defined processes to achieve a defined outcome.

1. A piece of paper can be a sales system. The cash registers at your local grocery store, gas station and restaurant are sales systems.
2. A paycheck stub from Employment is in fact a form of a sales system when viewed from the employee perspective. Although prepared by the employer it is a sales system for the employee.

A "Sales System" tracks INCOMING MONEY ONLY. A Sales System does not track money spent to buy what was sold nor does it track money spent on items required to be in business.

The following are elements and features of a sales system.

1. It stores and presents Line item sales details, as found on a receipt from a grocery store, restaurant or gas station, for example
2. It stores and presents Sales totals
3. It stores and presents Sales Tax information (if applicable)
4. It stores and presents Payment Amounts and Payment Methods
5. It can produce receipts for customers and others making payments
6. It may or may not allow for customer tracking and customer list management.
7. It may or may not include tracking for Accounts Receivable, which is a fancy way of saying "money due to you". This is only relevant if payments are not made at time of transactions.
8. It may or may not offer Inventory Tracking, if it is the sale of a product.
9. It should account for sales tax tracking if that is applicable.
10. Other



NOTE: A credit card processing system should NOT be thought of as part of a sales system. That is a peripheral service that is best thought of separately and oftentimes best handled separately with only and notation for payment via credit card stored in the sales system.

What functionality delineates a simple sales system from a complex system?

One of the biggest mistakes made in business and in life is taking on commercial complexity without understanding the organizational needs required to handle the accounting for the added complexity.

A Simple Sales System related to a Simple Business has the following attributes:

1. Customers - No tracking by customer name required (a Barber, Lemon-aid Vendor, Shoe Shiner, etc)
2. Money Collection - All Money collected in full at time of transaction. (no advance payments and no billing afterwards)
3. Employees - No employees to manage (this relates to sales system security as well as non sales system matters)
4. Inventory - No inventory to buy, track, or manage
5. Sales Tax - No Sales Tax to track and manage (not typically a huge deal but requires extra work)
6. Licensing and Regulatory Compliance - No licensing or regulatory requirements to manage as part of the sales system.

NOTE: this list is fairly inclusive. There are not many other categories that affect this.

Manual Sales Systems vs Digital Sales Systems

The following offers a list of manual sales systems vs digital sales systems.

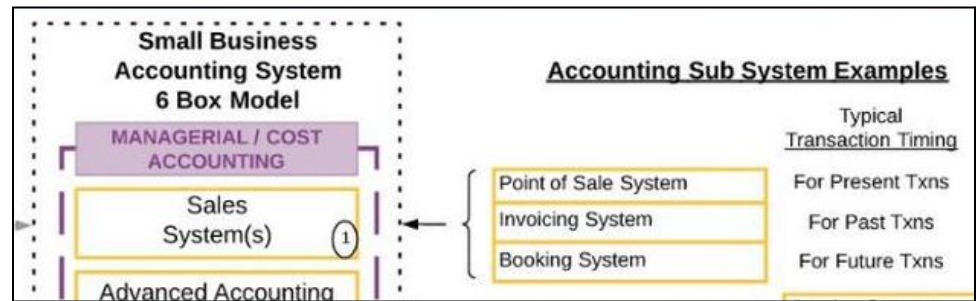
<ol style="list-style-type: none"> 1. Pencil, Pen & Paper 2. Carbon Copy Forms 3. An old time cash register 4. other... 	<ol style="list-style-type: none"> 1. Electronic Cash Registers at Grocery Stores and Gas Stations 2. Computers w/ internet connection & Software as a Service 3. Computers w/ internet connection & Private Website 4. Computers w/ internet connection & Cloud Spreadsheets 5. Computers with local software 6. A website with a shopping cart may qualify if ALL transactions for a business go through it. If not it is a partial system. 7. other...
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Sales System Types - as a function of Money Collection Timing

The ZAP Accounting Software website has an interesting cognitive model with cloud spreadsheet based software for education and use on it. That was done by the same group that is offering this Sales System. Their cognitive model starts with "Sales Systems". It then provides categories for sales systems as a function between the time a transaction transpires and the time the money flows into the business.

Those categories are:

1. Present
2. Past
3. Future



Ref: <https://www.zap-accounting-software.com/via-the-6-box-model.html>

We've expanded on this a little below. We added the category of "Statement System" below. We've also noted that invoicing systems can be useful for present or past transactions.

Money Collection Timing vs Transaction Timing Name of Applicable Systems

Present - Money Collected at time of Transaction >> Point of Sale Systems (POS Systems) // Invoicing System

Future - Money Collected after a Transaction >> Invoicing Systems // Statement System

Past - Money Collected before a Transaction >> Booking System

The overall functionality of Present, Future and Past systems is remarkably similar.

The different names for the systems are good to learn because each name has an inherent and implied meaning that subtly separates it from the others.

However, they are actually small differences once you know them. Once you learn the basics for a Point of Sale, Invoicing, Statement and/or Booking Systems you will see how they are quite similar to each other with regards to the data they contain and the functions they serve.

As of right now, we're having a very high level conversation. There is no need to get into details. Contained in the Appendix are some details that differentiate these systems. Check them out later.

Manual Sales Systems - Data Management

What is Sales System Data, how is it stored, and what are the biggest drawbacks of manual systems?

In manual systems, like paper and carbon copy systems, each sheet of paper contains the data. There is line item data related to each item purchased. Typically there is some other content on the forms like date, time, location etc.

As the store owner you would file the paper in a folder / file system and/or digitally scan it for storage. Those documents are typically stored by transaction date although they may be stored by customer / client. In some systems they may be stored both by date and by client, although that takes more work.

DRAWBACK - The drawbacks to manual systems are related to the work required to store the paper data and data entry for aggregated reporting. If the transaction count is very low, that is very little work, but as the transaction count goes up, the work goes up accordingly. If you want aggregated reporting you have to make a list of numbers on paper and/or use a calculator, adding machine, spreadsheet for aggregated totals.

Photo courtesy of: <https://penhopechest.com/2012/04/05/the-age-of-the-handwritten-receipt/>

Digital Sales Systems - Data Management

What is Sales System Data, how is it stored, and what are the benefits and drawbacks of digital systems?

When we talk about "digital sales system data", think about the data on a grocery store, gas station or restaurant receipt. It's the same data as seen in a manual system but it's easier to remember a receipt snapshot for this section.

Digital Systems don't store images of the receipt. They store just the data and then they render structured data and images when needed.

Learning how they store data and how they work will provide insight into data management that may benefit you in many different ways related and unrelated to sales systems and money management for the rest of your life.

The benefits of Digital Sales Systems are automatic reporting and automatic data storage and ease of retrieval. The drawbacks are cost and overhead of maintaining digital equipment, software, and planning for transaction handling and data recovery when there are problems with technology..

DATE	06/01/2016	WED

ZUCCHINI GREEN		\$4.88
0.778kg NET @ \$5.99/kg		
BANANA CAYENSH		\$1.32
0.442kg NET @ \$2.99/kg		
SPECIAL		\$0.99
SPECIAL		\$1.50
POTATOES BRUSHED		\$3.97
1.328kg NET @ \$2.99/kg		
BROCCOLI		\$4.84
0.808kg NET @ \$5.99/kg		
BRUSSEL SPROUTS		\$5.15
0.322kg NET @ \$15.99/kg		
SPECIAL		\$0.99
GRAPES GREEN		\$7.03
1.174kg NET @ \$5.99/kg		
PEAS SNOW		\$3.27
0.218kg NET @ \$14.99/kg		
TOMATOES GRAPE		\$2.99
LETTUCE ICEBERG		\$2.49
SUBTOTAL		\$39.20
LOYALTY		-15.00
SUBTOTAL		\$24.20
SUBTOTAL		\$24.20
TOTAL		\$24.20
CASH		\$50.00
CHANGE		\$25.80

Photo courtesy of: <https://sunnymoney.weebly.com/blog/grocery-receipt>

Digital Sales Systems - Data Management Details

Part 1 - Data Terminology

The Receipts generated by your local grocery store, gas station, and restaurants provide insight into how the digital systems work in a simple way. In this section you will learn about the following words:

1. Data
2. Header and Header Data
3. Line Items and Line Item Data
4. Header and Line Item Records

Data

The information on the receipt is formally referred to as "data" by technologists. The data on the receipt is referred to as either 1) header data or 2) line item data.

Speaking in terms of Header Data and then Line Item data is always a good way to think about them, but when learning about them it's easier to learn about the Line Items first.

Line Items and Line Item Data

Line item data is easy to identify.

1. Each item you purchase is a line item.
2. Line items typically consist of a description, a quantity and an amount. They may or may not be numbered on the receipt.

NOTE: Generically line item records may also be referred to as "detail records". They provide the "details" of a receipt or transaction.



DATE	08/01/2016	WED

ZUCCHINI GREEN		\$4.66
0.778kg NET @ \$5.99/kg		
BANANA CAVENDISH		\$1.32
0.442kg NET @ \$2.99/kg		
SPECIAL		\$0.99
SPECIAL		\$1.50
POTATOES BRUSHED		\$3.97
1.328kg NET @ \$2.99/kg		
BROCCOLI		\$4.84
0.808kg NET @ \$5.99/kg		
BRUSSEL SPROUTS		\$5.15
0.322kg NET @ \$15.99/kg		
SPECIAL		\$0.99
GRAPES GREEN		\$7.03
1.174kg NET @ \$5.99/kg		
PEAS SNOW		\$3.27
0.218kg NET @ \$14.99/kg		
TOMATOES GRAPE		\$2.99
LETTUCE ICEBERG		\$2.49
SUBTOTAL		\$39.20
LOYALTY		-15.00
SUBTOTAL		\$24.20
SUBTOTAL		\$24.20

SUBTOTAL		\$24.20
TOTAL		\$24.20
CASH		\$50.00
CHANGE		\$25.80

Header and Header Data

Header data is all the other data on the receipt that is not line item data.

It doesn't matter if that data is actually in the top of the receipt, which is referred to as the "header of the receipt", or not.

Header data is just a phrase that's used to describe the rest of the data. .

1. The top of the receipt is referred to as the "header" of the receipt. Just like the "header" of a document.
2. With paper roll receipts it's common to put all static "header data" at the top of the receipt.
3. We are including subtotals and totals as "header data". Other technologists might not do that. We do it because we store that data in our software. Others may recalculate it each time, thus it's not stored in their header records.

An example of header data includes:

1. Store / Business Name
2. Transaction Date
3. Transaction Time
4. Sales ID / Number

Our definition of header data also includes:

1. Customer/Client/Patient name
2. Total Due
3. Total Paid
4. Payment Method
5. etc

Item	Price
DATE 06/01/2016 WED	
ZUCHINNI GREEN	\$4.66
0.778kg NET @ \$5.99/kg	
BANANA CAVENDISH	\$1.32
0.442kg NET @ \$2.99/kg	
SPECIAL	\$0.99
SPECIAL	\$1.50
POTATOES BRUSHED	\$3.97
1.328kg NET @ \$2.99/kg	
BROCCOLI	\$4.84
0.808kg NET @ \$5.99/kg	
BRUSSEL SPROUTS	\$5.15
0.322kg NET @ \$15.99/kg	
SPECIAL	\$0.99
GRAPES GREEN	\$7.03
1.174kg NET @ \$5.99/kg	
PEAS SNOW	\$3.27
0.218kg NET @ \$14.99/kg	
TOMATOES GRAPE	\$2.99
LETTUCE ICEBERG	\$2.49
SUBTOTAL	\$39.20
LOYALTY	-15.00
SUBTOTAL	\$24.20
SUBTOTAL	\$24.20
TOTAL	\$24.20
CASH	\$50.00
CHANGE	\$25.80

Header and Line Item Records (data records)

A data record, referred to commonly as just a record, is a line of information like a sentence, but w/o the subject-verb structure and often shown in a grid or with commas separating values. It's a recording of data. (aka a record of data)

One "header record" is created for each transaction.

Statment Headers							
4 records 1005 is next record							
Stmnt ID	Customer ID	Bill To	Email to	Email Salutation	Stmnt Date	Due Date	Statment Title
1001	Owen Terry	Owen Terry 67988 5th St Castroville, CA 95012	owen.terry@mail-x.com	Owen	7/1/2024	7/31/2024	2024-2025 Water Ser
1002	Dylan Wallace	Dylan Wallace 3 Wild Way Castroville, CA 95012	dylan.wallace@mail-x.com	Dylan	7/1/2024	7/31/2024	2024-2025 Water Ser
1003	Robert White	Robert White 239 Vegan Way Castroville, CA 95012	robert.white@mail-x.com	Rob	7/1/2024	7/31/2024	2024-2025 Water Ser
1004	Steven Payne	Steven Payne 12 Rootbeer Road Ste 102 Castroville, CA 95012	steven.payne@mail-x.com	Steve	7/1/2024	7/31/2024	2024-2025 Water Ser

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Notes ▾
Contacts ▾
Contacts_filter ▾
Stmnt_headers_tbl ▾
Stmnt_lineitems_tbl ▾
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The "line item records" associated with each header record are identified via a shared piece of unique data, like the statement ID. This data is referred to a a "key" (primary key, foreign key, composite key).

Statment Lineitems				Jane's Water Ser		
Statement ID (composite ID)		Line Item #	Description	Amount	Line Item Total	rowX
1001--20240701--Owen Terry	▼	1	Annual License - \$952 x 1/8	119.00	\$119.00	9
1001--20240701--Owen Terry	▼	2	Water Svc \$35/mo x 12 months	420.00	\$420.00	10
1002--20240701--Dylan Wallace	▼	1	Annual License - \$952 x 1/8	119.00	\$119.00	11
1002--20240701--Dylan Wallace	▼	2	Water Svc \$35/mo x 12 months	420.00	\$420.00	12
1003--20240701--Robert White	▼	1	Annual License - \$952 x 1/8	119.00	\$119.00	13
1003--20240701--Robert White	▼	2	Water Svc \$35/mo x 12 months	420.00	\$420.00	14
1004--20240701--Steven Payne	▼	1	Annual License - \$952 x 1/8	119.00	\$119.00	15
1004--20240701--Steven Payne	▼	2	Water Svc \$35/mo x 12 months	420.00	\$420.00	16

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Stmnt_lineitems_tbl ▾
Stmnt_1 ▾
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The idea that header records are stored with other header records and separate from line item records is not intuitive to visual people not educated in data management. Once you see it once it makes sense.

Part 2 - Data Tables

The images above and below are generically referred to as “data tables”. Digital Tables with data in them.

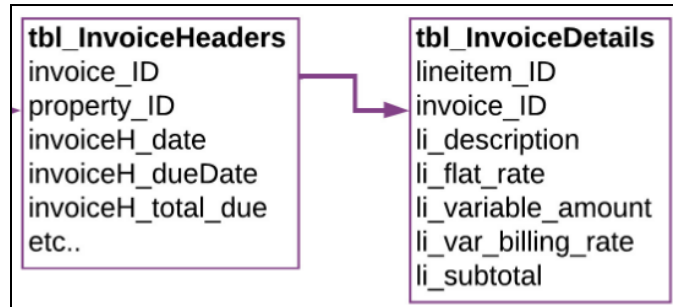
Statment Headers							
4 records 1005 is next record							
Stmt ID	Customer ID	Bill To	Email to	Email Salutation	Stmt Date	Due Date	Statment Title
1001	Owen Terry	Owen Terry 67988 5th St Castroville, CA 95012	owen.terry@mail-x.com	Owen	7/1/2024	7/31/2024	2024-2025 Water Ser
1002	Dylan Wallace	Dylan Wallace 3 Wild Way Castroville, CA 95012	dylan.wallace@mail-x.com	Dylan	7/1/2024	7/31/2024	2024-2025 Water Ser
1003	Robert White	Robert White 239 Vegan Way Castroville, CA 95012	robert.white@mail-x.com	Rob	7/1/2024	7/31/2024	2024-2025 Water Ser
1004	Steven Payne	Steven Payne 12 Rootbeer Road Ste 102 Castroville, CA 95012	steven.payne@mail-x.com	Steve	7/1/2024	7/31/2024	2024-2025 Water Ser

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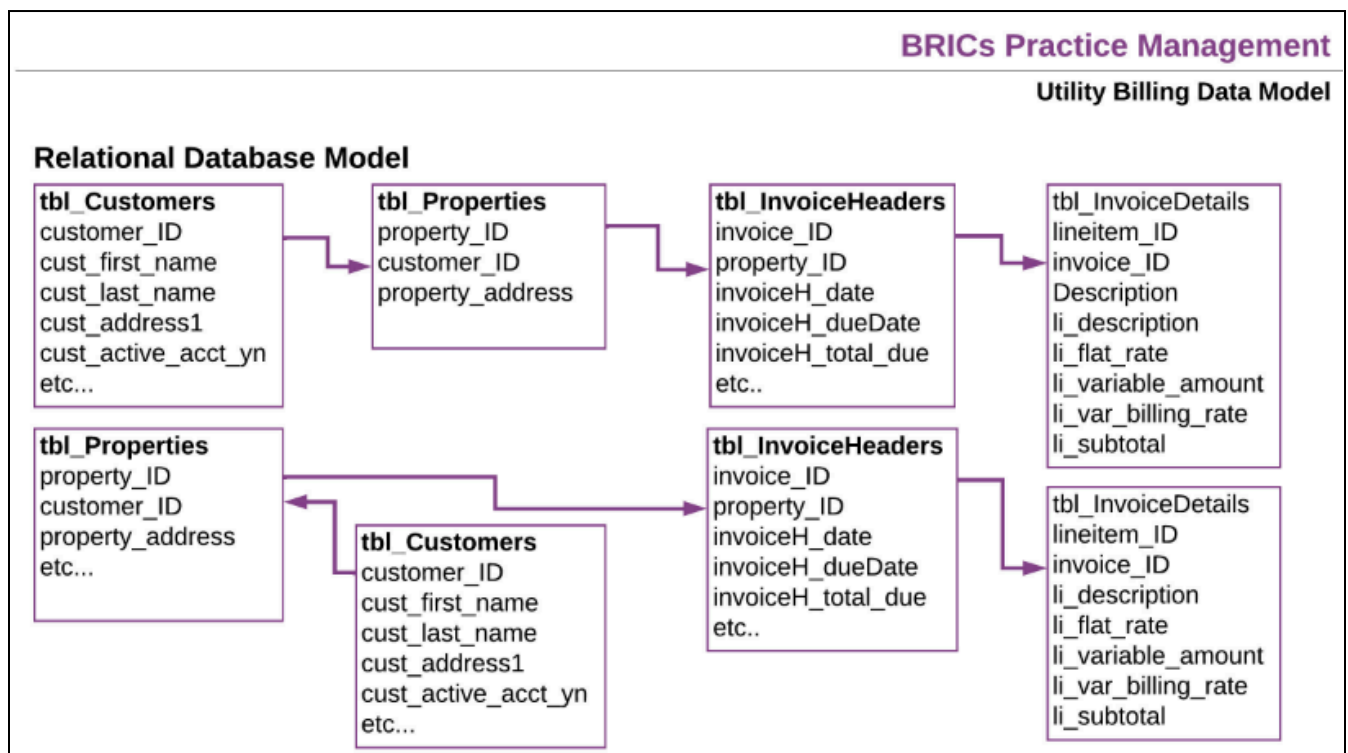
Part 3 - Parent - Child Records

The term for the relationship between header records and line item records (aka detail records) is "parent-child" records.

The idea is that each child record has one and only one parent record and or that each parent record has one or more child records. This naming was done long ago and likely didn't take into account the social etiquette of institutionalizing ideas about single parents.



ALL Data that you touch and interact with can be modeled in "data table" and "parent - child" record relationships. If you garden or are a mechanic or play sports, everything you interact with can in fact be modeled using this parent-child concept. This is how all software and gaming and digital organization transpires. Furthermore Parent have children that are parents to other children, just like a family tree.



Part 4 - Creating a Receipt, Invoice or Statement from Digital Data Records

To create a "receipt", an "invoice", or a "statement" from header and detail records, the sales transaction id that identifies the header record and the related line item records is used to get the data in two different "record sets" of data. That data is digitally retrieved and digitally organized using programming code to create the look of your receipt, invoice or statement. This is a spreadsheet based invoice below and there is a select box on the form that allows for invoice selection.

Janes Water Service 1 1221 Bay Road Artichoke CA 95012	Statement ID: 1003 Statement Date: 7/1/2024 Payment Due Date: 7/31/2024 Total Due: \$539.00	
Checks: Pay to Jane Doe Mail to: Jane Doe, 1221 Bay Road Artichoke CA 95012		
Robert White 239 Vegan Way Castroville, CA 95012		
-----Please return top portion with payment-----		
Jane's Water Service (ss1) Statement		
1221 Bay Road Artichoke CA 95012 - 831-555-2978 - jane@emailX.com		
1003--20240701--Robert White		
Statement Title 2024-2025 Water Service		
Bill To Robert White 239 Vegan Way Castroville. CA 95012		
Statement ID: 1003 Statement Date: 7/1/2024 Pmt Due Date: 7/31/2024 Total Due: \$539.00		
Comments: This year includes \$5/mo increase in water See letter for more information		
Total Due \$539.00		
Line Item #	Description	Amount
1	Annual License - \$952 x 1/8	\$119.00
2	Water Svc \$35/mo x 12 months	\$420.00

Appendix - Sales System Types - Comparative Descriptions

Point of Sale Systems -- Think "retail stores" and places where you buy products and services and pay for them at the time and place of the sale. The receipt provided is often from a paper roll, not a 8 1/2 x11 sheet of paper.

Invoicing Systems - Invoicing systems can be used as Point of Sale systems. The primary difference between an invoicing system and a POS System may only be the way the receipt is presented. It would typically be on 8 1/2 x 11 paper. Invoicing systems are also used to bill for products and services provided at a prior time, not at a point of sale. Invoices sent after the fact are issued as soon as possible after a transaction happened in an ongoing manner.

Statement Systems - Statement Systems are nearly identical to invoicing systems in that they provide a receipt and bill for products and services from a prior time. The primary difference between invoicing systems and statement systems is that statements are generated at a fixed or regular time every week, month, quarter or year. They may summarize data that was previously billed on invoices or they may just present data that hasn't been presented prior.

Booking Systems - Booking systems are going to produce documents, typically referred to as "reservations" or orders", but they look just like invoices or statements. The list of products or services are going to be delivered in the future.

As you can see, the "words" describe nuances in the systems but the systems themselves all perform nearly identical functions.