

A Modern Family Phone Plan

Zeshawn Beg, DBA, CMA
Quinnipiac University

Nelson Alino
Quinnipiac University

INTRODUCTION

As defined in the Federal Accounting Standards Advisory Board (FASAB) Glossary of Cost Accounting Terms, cost assignment is “a process that identifies costs with activities, outputs, or other cost objects. In a broad sense, costs can be assigned to processes, activities, organizational divisions, products, and services. There are three methods of cost assignment: (a) directly tracing costs wherever economically feasible, (b) cause-and-effect, and (c) allocating costs on a reasonable and consistent basis.”¹ By assigning costs to different cost objects (instead of leaving costs in an unassigned pool), organizations can potentially realize several benefits, including, but not limited to, better pricing of products and services, better manager accountability over limited resources, and better resource planning for the future.

While cost assignment is a standard issue faced by for-profit companies, it also has extensive applications for not-for-profit organizations and for everyday transactions in which several individuals or groups benefit from shared resources. Whether it is a group of friends splitting the bill at dinner, a pair of roommates planning on divvying up the rent for a new apartment, multiple business teams hiring a shared IT (information technology) specialist, or a company that must charge its services to several government contracts, reliable (or unreliable) cost assignment can significantly affect the behavior, profitability, and satisfaction of all parties who benefit from and contribute toward shared resources.

The following case, “A Modern Family Phone Plan,” covers the *allocation of the common costs* of a cellular phone bill that benefits multiple family members. In this case, you will need to consider why and how you might split the cost of the several and varied components of a shared resource (a monthly phone plan) and how you might communicate the cost allocation (i.e., financial burden) to other parties (i.e., your family members).

CASE

Two years of preschool, 12 years of private elementary and secondary education, four years at a top-tier state university, four more years in medical school, and, finally, four years in medical residency: Zayna Khan’s road to becoming an internal medicine physician had been challenging but, ultimately, fruitful. Her graduation day had been a joyous and proud moment for her and her whole family in attendance, especially for her father, Rizwan, a Pakistani immigrant who had lived in the United States for nearly 40 years, working as an engineer for one of the Big Three auto companies; and less so for her younger brother, Manu, who, as the now-teenage baby of the family, always begrudged any attention doted on his sibling.

Zayna—now Dr. Khan—rode an emotional rollercoaster for several months that summer. Excitement to be graduating made way for relief to be done with school, which was then overshadowed by anxiety to be joining a small

¹Federal Accounting Standards Advisory Board (FASAB), “Glossary of Cost Accounting Terms Established in SFFAS 4, *Managerial Cost Accounting Concepts and Standards for the Federal Government*,” http://files.fasab.gov/pdf/files/costacc_glossary.pdf.

clinic, where even as a newly minted physician she would be a part-owner of the medical practice. Her first weeks with her patients had been exhausting but fulfilling; it felt like the work was never done, but she reveled in being able to help people in her community. With those experiences as her backdrop, Zayna sat back to enjoy a relaxing Saturday evening doing something noticeably and enjoyably mundane: reading an email from her father (see Exhibit 1) and poring over her most recent phone bill (see Exhibit 2).

A month ago, Zayna had added her father's and brother's cellular phone lines to her own account. She was able to send them new smartphones and set them up to share her data

allowance and plan discounts. To her surprise, Zayna's father had just emailed asking how much he should pay for his and Manu's share of the phone bill. Zayna was slightly taken aback: One day she would be a very financially secure doctor, but today she had a fledgling medical practice, a mortgage, and a mountain of student loans (see Exhibit 3). She was willing to provide phone service to her father and brother for free, but she knew her father's offer to pay his and Manu's share was sincere. What is the responsible thing for her to do? What was she going to say to her father? Should she "charge" her father for phone service, and if so, how much would be appropriate?

Exhibit 1. Email Exchange Between Zayna Khan and Her Father

From: Rizwan Khan <rizkhan@freemail.com>
Sent: Saturday, September 16, 2017 8:14 AM
To: Zayna Khan <therealdrkhan@freemail.com>
Subject: Re: New phones

Thanks so much for the new smartphones. I'm still getting used to all the buttons and programs, but it's definitely an upgrade from my old "dumb" phone. It has been a great new way for me to video chat with your uncles and aunties back home!

Of course, your brother already seems to be completely comfortable using the new phone for his games and music. He didn't actually say "thank you," but I'm sure he's grateful...

How much should I pay you for August's phone bill? I used to pay \$70 a month total for our old phones.

Love, Dad

From: Zayna Khan <therealdrkhan@freemail.com>
Sent: Sunday, July 9, 2017 4:21 PM
To: Rizwan Khan <rizkhan@freemail.com>
Subject: New phones

Hi Dad,

Sorry I haven't come by since graduation... It's just been really busy at the clinic getting my accounts set up.

I just found that since we're part of the National Clinics Association, I'm eligible for a pretty big discount on my cell phone plan. I don't have to change numbers or anything; the carrier will just apply the discount to the existing plan with my phone lines.

I know you've been thinking about getting new phones for you and Manu. I could add your two lines to my account and bump up the talk time allowance from 500 minutes to 700 minutes, and the data allowance from 4 GB to 6 GB. What do you think? Give me a call if you want me to set it up.

-Zayna

Exhibit 2. August Phone Bill

PHONE BILL DETAILS	REF #	August 2017				
	1	Account	ZK Line	RK Line	MK Line	Total
<u>Account Charges & Credits</u>						
Talk Plan (700 min)	2	\$30.00				\$30.00
Data Plan (6 GB)	3	\$50.00				\$50.00
Access Discount (22%)	4	(\$17.60)				(\$17.60)
Talk Time Overage Fee	5	\$10.00				\$10.00
Data Overage Fee	6	\$0.00				\$0.00
		\$72.40				\$72.40
<u>Line Charges and Credits</u>						
Standard Talk Time (minutes)	7		300	200	200	700
Overage Talk Time (minutes)	8		50	0	75	125
Total Talk Time (minutes)	9		350	200	275	825
Data Usage (GB)	10		1.50	1.00	2.50	5.00
Monthly Line Charges	11		\$20.00	\$40.00	\$40.00	\$100.00
Usage & Purchase Charges	12		\$5.00	\$0.00	\$15.00	\$20.00
Surcharges & Other Charges	13		\$4.16	\$3.40	\$3.52	\$11.08
Government Taxes and Fees	14		\$5.99	\$6.05	\$6.18	\$18.22
			\$35.15	\$49.45	\$64.70	\$149.30
TOTAL MONTHLY BILL		\$72.40	\$35.15	\$49.45	\$64.70	\$221.70
Note: All monetary values are in U.S. dollars.						

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PHONE BILL NOTES

- Some items are incurred by the account in total (regardless of the number of lines); other items are directly traced by the phone carrier to the individual phone lines.
- Talk Plan account fee providing 700 minutes of shared talk time. (Talk Options: 700 minutes = \$30; 600 minutes \$25; 500 minutes = \$20; 400 minutes = \$15; 300 minutes = \$10)
- Data Plan account fee providing 6 GB of shared data (Data Options: 6 GB = \$50; 4 GB = \$40; 2 GB = \$30)
- Account discount applied because of Zayna's professional association.
- Penalty incurred when the account's total talk time exceeds the plan talk limit: \$5.00 fixed penalty plus \$0.04 per overage minute.
- Penalty incurred when the account's total data usage exceeds the plan data limit: \$5.00 per GB.
- Each line's talk time incurred prior to the account reaching its total plan limit.
- Each line's talk time incurred after the account reaches its total plan limit.
- Each line's total talk time incurred throughout the billing period.
- Each line's data usage incurred throughout the billing period.
- Smartphone line access (the ability to access data on the cellular network): \$20.00 for the first line; \$40.00 for each subsequent line.
- Items for media purchased and in-app purchases.
- Items imposed on users to recover carrier-incurred regulatory charges.
- Items for user-incurred taxes and regulatory charges.

Exhibit 3. Select Personal Information for Zayna Khan, Her Father, and Her Brother

	<u>Zayna Khan</u>	<u>Rizwan Khan</u>	<u>Manu Khan</u>
Relationship to Zayna	Self	Father	Brother
Age	29	54	15
Dependents	1 (self)	2 (self and son)	0
Monthly Gross Income	\$10,000	\$5,000	\$0
Monthly Living Expenses	\$6,000	\$3,500	\$500
Bank Account Balance	\$8,000	\$24,000	\$300
Retirement Account Balance	\$0	\$180,000	\$0
Debts	\$250,000 school loan \$200,000 mortgage	\$0	\$0
<i>Note: All monetary values are in U.S dollars.</i>			

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