**Journal of Cases on Information Technology**
Volume 18 • Issue 1 • January-March 2016

# Dillards Christmas Dashboard:
## A Teaching Note Examplar

Andrew Borchers, Lipscomb University, Nashville, TN, USA

## UNDERGRADUATE VERSION

### Editorial Note

This is an exemplar of a "teaching note", a new format for articles in the *Journal of Cases in IT*. The intent is for authors to demonstrate innovative teaching assignments and techniques. Teaching notes are blind reviewed, as are all manuscripts.

### Instructor Note

This assignment requires either access to the UA_Dillards dataset available at http://enterprise.waltoncollege.uark.edu/ or an example dataset available from the author. Access to these resources is generally free for educational institutions.

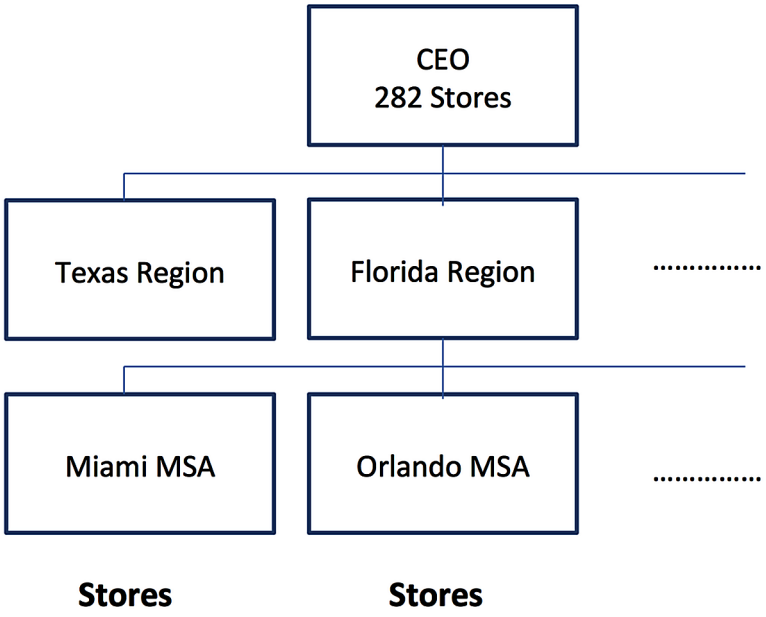
You work for the CEO of Dillard's Department Store. Your boss is interested in sales for Dillard's regions. Each region is led by a regional manager and consists of multiple large MSAs (Metropolitan Statistical Areas) shown below in Figure 1. Regional managers are interested in the performance of their MSAs and individual stores. Each of these MSA areas is led by an MSA manager and has four or more stores. Each store operates approximately 60 departments.

You are in the Christmas season of 2004. You have a sales target for each metro area (shown in the table below) for the full 36-day season. Note that this target is for the total actual sales (that is "sprice" times "quantity) not counting returns. Another target is that 10 day sales should be 25% of your target for the holiday season. (Actually, the firm has daily targets for the entire Christmas season and your dashboard should reflect the idea of daily updates). Finally, mark down percentage is a key target. Your firm typically encounters 30% marked down (that is (original – actual)/original) expressed as a %). Your boss has asked you to create a dashboard with performance indicators that divisional managers can use in talking with MSA/store managers. Utilize Excel pull-down menus to help users navigate the system (such as PivotCharts offer). Populate your dashboard at two points – 10 days after Thanksgiving and on 12/31/2004 (end of the full 36-day season). Most likely, you will submit a single Excel workbook with a tab for the 10 day and end of year views and additional tabs with raw data and pivot tables. Design the appearance of your dashboard, however, to reflect that the data will be updated daily.

Prepare a concise, one-page memo date 12/5/04 – written to your store managers. Clearly explain what Key Performance Indicators the dashboard shows and how they can be used day by day as the Christmas season progresses. I encourage you to include a screen shot on a second page (perhaps with annotations) and highlight key points from your memo.

DOI: 10.4018/JCIT.2016010106

**Figure 1. Organization chart**

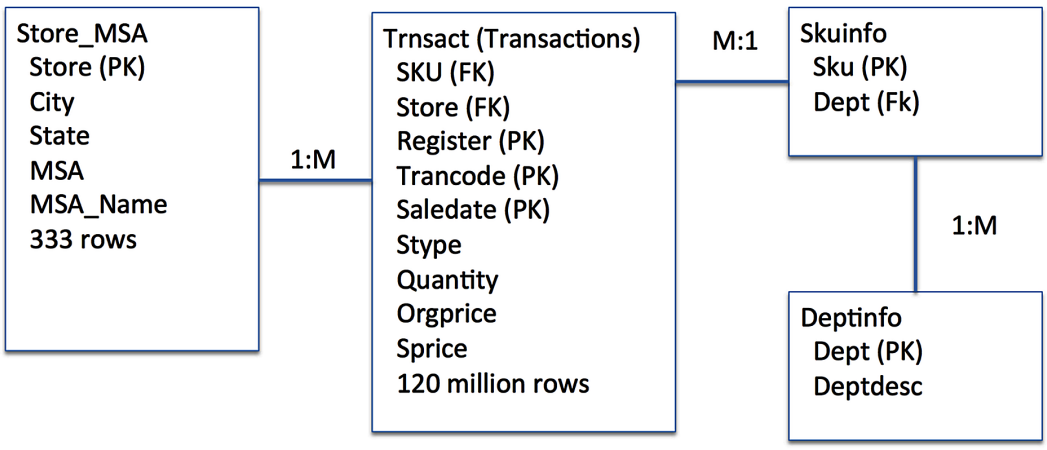



There are really three parts to this assignment – get the data from the warehouse, build a store manager dashboard and write a memo to your subordinates. Submit an Excel file along with your memo (in Word format) in BlackBoard. Each team needs to have only one teammate submit the team's work. Be sure to list the names of all active teammates. Maximum team size is 3.

## MINIMUM TECHNICAL REQUIREMENTS

1. If your instructor has you query data from the Walton College database, you must "slice" the Dillards data with at least one database queries – more are great. The one below (Figure 2) is

**Figure 2. Entity relationship diagram for dillards assignment**



quite useful to get MSA, store and departmental data for your 10 day and 12/31 screens, although you will need to modify for dates and MSAs.

2. Your dashboard needs some sort of interactive capability for users to alter the data they see. Typically, this is achieved by using "filter" abilities in PivotCharts in Windows based Excel.

   **Grading:** Grades will be based on (100-point scale):

   **Visual appearance 20/20:** Is your dashboard visually appealing with respect to color and choice of graphics?

   **Information Displayed 20/20:** Do you display the KPIs in a way that "tells a story" for managers?

   **Monitor at a glance 20/20:** Can mangers see key information on one screen? Is it easily interpreted? Can users "drill down"?

   **Memo 15/15:** Is your memo convincing and succinct? Do you speak to the KPIs?

   **Teradata SQL Access:** URL is http://teradata.waltoncollege.uark.edu/login.aspx. Instructors can obtain access for their students from Walton College.

When logging on to SQL Assistant, specify "UA_Dillards" as the database.

Please go to http://enterprise.waltoncollege.uark.edu/ to see details on this database. Note that the Dillards dataset includes a full year's worth of transaction data for Dillards from 2004.

**Sample Query:** Useful for store and department data:

```
select SM.msa, TA.store, DEPT.dept, DEPT.deptdesc, TA.stype, sum(quantity*orgprice) as ORIG,
    sum(quantity*sprice) as ACTUAL, (ORIG-ACTUAL) as MARKDOWN from STORE_MSA
    SM, TRNSACT TA, DEPTINFO DEPT, SKUINFO SKU where msa in (5880, 2680) and
    saledate between '2004-11-26' and '2004-12-31' and TA.stype = 'P' and SM.store = TA.store
    and TA.sku = SKU.sku and DEPT.dept = SKU.dept group by SM.MSA, TA.store, DEPT.dept,
    DEPT.deptdesc, TA.stype order by sm.msa, TA.store, DEPT.dept;
```

Note that "stype" is either "P" for purchase and "R" for return. Note that "orgprice" is the original price and "sprice" is the actual selling price. Also, note that there is typically some "dirty data" such as records with orgprice of $0 that you will need to review

### Team Assignments: Made by Your Instructor (Table 1)

Team 1 - "Texas" MSAs - 3360, 7240, 2800, 5880
Team 2 - "Florida" MSAs -2680, 8280, 5960, 3600
Team 3 - "Atlanta" MSAs - 520, 1520, 5560, 5360
Team 4 - "St Louis" MSAs -7040, 4400, 5360, 3760
Team 5 - "Southwest" MSAs - 5880, 6200, 3760, 4120
Team 6 - "West" MSAs - 4120, 2080, 3760, 6200
Team 7 - "Central" - MSAs -1640, 7040, 1680, 5360
Team 8 - "North" MSAs - 2080, 7040, 3760, 1640
Team 9 - "East" MSAs - 5720, 6760, 2680, 3600
Team 10 - "Gulf" - MSAs -3360, 8280, 5960, 5560
Team 11 – "Diverse 1" – MSAs -3360, 4120, 2080, 520
Team 12 – "Diverse 2" MSAs - 7040, 4120, 2080, 5720

**Table 1. MSA sales targets**

| MSA | MSA_NAME | Store Count(MSA) | Full Season Sales Target |
|---|---|---|---|
| 3360 | HOUSTON-SUGAR LAND-BAYTOWN, TX | 11 | 15,259,282 |
| 2680 | MIAMI-FORT LAUDERDALE-POMPANO BEACH, FL | 8 | 9,531,508 |
| 520 | ATLANTA-SANDY SPRINGS-MARIETTA, GA | 5 | 5,087,896 |
| 7240 | SAN ANTONIO, TX | 4 | 6,149,333 |
| 6760 | RICHMOND, VA | 5 | 2,721,408 |
| 2800 | DALLAS-FORT WORTH-ARLINGTON, TX | 14 | 11,184,461 |
| 1520 | CHARLOTTE-GASTONIA-CONCORD, NC-SC | 5 | 3,723,389 |
| 5560 | NEW ORLEANS-METAIRIE-KENNER, LA | 5 | 9,098,243 |
| 8280 | TAMPA-ST. PETERSBURG-CLEARWATER, FL | 7 | 11,402,053 |
| 1680 | CLEVELAND-ELYRIA-MENTOR, OH | 6 | 7,040,992 |
| 2080 | DENVER-AURORA, CO | 6 | 6,393,159 |
| 4400 | LITTLE ROCK-NORTH LITTLE ROCK-CONWAY, AR | 4 | 7,017,718 |
| 5360 | NASHVILLE-MURFREESBORO-FRANKLIN, TN | 7 | 6,712,236 |
| 7040 | ST. LOUIS, MO-IL | 8 | 6,757,263 |
| 4120 | LAS VEGAS-PARADISE, NV | 4 | 6,484,739 |
| 3760 | KANSAS CITY, MO-KS | 5 | 6,350,839 |
| 1640 | CINCINNATI-MIDDLETOWN, OH-KY-IN | 8 | 7,429,359 |
| 5960 | ORLANDO-KISSIMMEE, FL | 6 | 8,818,724 |
| 6200 | PHOENIX-MESA-SCOTTSDALE, AZ | 8 | 13,300,794 |
| 5720 | VIRGINIA BEACH-NEWPORT NEWS, VA-NC | 5 | 4,553,875 |
| 3600 | JACKSONVILLE, FL | 4 | 4,619,736 |
| 5880 | OKLAHOMA CITY, OK | 5 | 6,876,504 |

*Andy Borchers is currently Professor of Management and Associate Dean at Lipscomb University in Nashville, TN. Before starting this position in 2011, he served for 10 years as an Associate Professor and department head at Kettering University in Flint, MI. Prior to his full-time academic life, Andy spend over 20 years in the automotive industry working for General Motors and Electronic Data Systems. Andy's academic background includes a bachelor's in industrial administration from Kettering University (formerly General Motors Institute), an MBA from Vanderbilt and a DBA from Nova Southeastern His research and teaching interests are varied - having taught in five academic units at Lipscomb (College of Business, College of Computing, College of Pharmacy and Health Sciences, Institute for Sustainable Practice and Institute for Conflict Management. Andy's publications include a number of case studies and empirical studies in entrepreneurship, information technology, project management and other areas.*