AL-070 The Business Value of Diversity Combined with Data Science

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- Stephen B. Sloan has worked in a variety of functional areas including Project Management, Data Management, and Statistical Analysis for Human Resources, Supply Chain, Finance, Marketing, Insurance, Life Sciences, and Manufacturing on behalf of both private and government clients. Stephen has had the good fortune to have worked with many talented people at SAS Institute.

- Stephen has presented over 100 times at 47 SAS conferences and been published in professional journals.

- Stephen has a B.A. cum laude with Honor in Mathematics from Brandeis University, M.S. degrees in Mathematics and Computer Science from Northern Illinois University, an MBA from Stern Business School at New York University (1st in his class), and a graduate certificate in Financial Analytics from Stevens Institute.

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LEAD THE WAY AND PLUG INTO SAS!

Purpose of the Paper

- Identify areas where awareness of diversity has helped organizations.

- Illustrate that awareness of diversity, when combined with data science, can help resolve a wide variety of business problems.

Types of Improvement from an Emphasis on Diversity

- Childcare and its impact on turnover

- Racial diversity and its impact on staffing

- Improvements in pharmaceutical research due to diverse subject populations

- Sensitivity to sexual orientation and its impact on client relations

- Awareness of trends from multiple perspectives can improve sales

- Regulatory compliance

- Employee morale and recruiting

Childcare and Its Impact on Turnover

- Challenge: The organization did self-audits and discovered that the average salary for female employees was less than for males

- Complicating factor: When employees were sorted into cohorts based on age, education, and experience, the discrepancy went away.

- On average, many more women than men in their 20's and 30's were leaving.

- Research: Study and text-mine the exit interviews using SAS.

- Conclusion: Many women were leaving due to childbirth and childcare.

- Further research: Use SAS to find how many employees were insuring children under 5 and forecast demand. Set up on-site childcare centers.

- Result: A statistically significant reduction in voluntary turnover.

- Reduced voluntary turnover leads to reduced recruiting and on-boarding costs and reduces the loss of talented resources

Racial Diversity and Its Impact on Staffing in a Pharmaceutical Organization

- Challenge: The perception that African-American sales reps were leaving the organization; was this due to a hostile work environment?

- Complicating factor: Many younger sales reps were leaving, regardless of ethnicity.

- Research: A pharmaceutical salary survey that the organization subscribed to showed that competitors had been raising sales reps' salaries. We analyzed the exit interviews and found that sales reps were leaving for higher salaries.

- Context: Under President Clinton a proposal for national health care led to the assumption that sales reps would be going to large buying groups instead of individual doctors, so fewer sales reps would be needed. The proposal did not pass, sales reps needed to go to individual doctors like they had been doing, and pharmaceutical companies needed to increase the number of sales reps.

- Result: The problem was non-competitive salaries, not a hostile work environment.

Improvements in Pharmaceutical Research Due to Diverse Subject Populations

- Thanks to Donna Sattler, **dsattler0716@gmail.com**, for ***Advancing Diversity in Clinical Research BMS Case Study on Self-Identified Sexual Orientation, Gender Identity (SOGI)*** at PharmaSUG 2024

- "Diversity truly is just good science".

- A diverse group of subjects leads to accurate and more complete research:
  - Detecting issues that might only affect a small part of the population leads to more complete results.
  - Identifying the different subgroups prevents misleading results.
  - Making patients comfortable discussing their experiences and demographic traits leads to improved treatments and better retention.

Sexual Orientation

- Context: The consulting organization I was working for had an active and successful LGBT group. Our client had an LGBT group that was having trouble getting off the ground.

- The client was in central New Jersey, so we connected their LGBT group with our LGBT groups in New York and Philadelphia.

- The client LGBT group was then able to build itself up.

- Helping the client in this way helped solidify our relationship.

- In a consulting organization, a diverse workforce is a source of strength. Our clients are facing the same issues; we can help them by sharing our experiences.

Retail Campaigns

- Context: I was working with a hair care company and using SAS to forecast demand for future sales. Due to the aging of the population, we projected increased sales of hair colors to disguise gray hair.

- Other information: High-level female employees pointed out that the same aging factors were causing attractive gray hair to become fashionable among older women; one example was the popularity of silver streaks.

- Result: Our demand forecasting and strategy groups accepted this input, modified the SAS programs, and recalibrated their forecasts.

Regulatory Matters

- Context: Private organizations and local government organizations with more than 100 employees and federal government contractors with more than 50 employees are required to submit EEO-1 reports which show gender and racial diversity in ten different labor categories.

- If an organization's EEO-1 report (on the following slide) shows disparities or patterns of discrimination, it could trigger an investigation resulting in the loss or suspension of a contract.

- It is valuable for an organization to have sophisticated statistical monitoring systems in place to ensure compliance.

Sample EEO-1 Report

5. EEO-1 Form (To be submitted by the prime and any sub with 20% or more of the contract).

NAME OF FIRM:

5. Section D- EMPLOYMENT DATA

Employment at this establishment- Report all permanent full and part-time employees including apprentices and on-the-job trainees unless specifically excluded as set forth in the instructions Enter the appropriate figures on all lines and in all columns. Blank spaces will be considered as zeros.

Number of Employees (Report employees in only one category)

Job Categories		Hispanic or Latino		Not-Hispanic or Latino												TOTAL COL. A-N
				Male						Female						
		Male	Female	White	Black or African American	Native Hawaiian or Other Pacific Islander	Asian	American Indian or Alaska Native	Two or more races	White	Black or African American	Native Hawaiian or Other Pacific Islander	Asian	American Indian or Alaska Native	Two or more races	
		A	B	C	D	E	F	G	H	I	J	K	L	M	N	O
Executive/Senior Level officials and Managers	1.1															
First/Mid-Level Officials and Managers	1.2															
Professionals	2															
Technicians	3															
Sales Workers	4															
Administrative Support Workers	5															
Craft Workers	6															
Operatives	7															
Laborers and Helpers	8															
Service Workers	9															
TOTAL	10															
PREVIOUS YEAR TOTAL	11															

1. Date(s) of payroll period used: _____ (Omit on the Consolidated Report.)

Section E-ESTABLISHMENT INFORMATION (Omit on the Consolidated Report). What is the major activity of this establishment? (Be specific, i.e., manufacturing steel casings, retail grocer, wholesale plumbing supplies, title insurance, etc. Include the specific type of product or type of service provided, as well as the principal business or industrial activity.)

Section F- REMARKS-Use this item to give any identification data appearing on the last EEO-1 report which differs from that given above, explain major changes in composition of reporting units and other pertinent information

Section G- CERTIFICATION

Check One	1	☐	All reports are accurate and were prepared in accordance with the instructions. (Check on Consolidated Report only.)
	2	☐	This report is accurate and was prepared in accordance with the instructions.

Name of Certifying Official		Title		Signature	Signature	Date	
Name of person to contact regarding this report		Title		Address (Number and Street)			

Employee Morale and Productivity

- When employees can "bring their whole selves to work", they are more motivated.

- A diversity of views and lived experiences can provide multiple viewpoints and lead to more effective decision-making.

- A reputation for respect for diversity can improve recruiting and attract talent. For example, Forbes publishes lists such as "America's Best Employers" and "Best Employers for Diversity".

- A solid diversity tracking system using tools like SAS can help pinpoint areas that are successful and areas that need more improvement and can also provide data for the evaluations by external organizations.

Conclusion

- Diversity is a business asset and awareness of diversity can lead to improved business outcomes.

- Problems that might not otherwise have been apparent can be detected by using advanced data science techniques to pay attention to diversity and a diverse organization has access to a wide variety of perspectives when making decisions.

- Consulting firms with strong diversity programs can share their experiences and provide additional value to their clients.

THANK YOU FOR ATTENDING

- Suggestions and feedback are welcome:

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