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Business Literacy for the Computer Science Professional (Presentation Outline)

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Business literacy is becoming more popular among business practitioners in multiple fields, including accounting, finance, human resources, training and development, leadership, health care, and other disciplines. However, little attention has been paid to business literacy for the computing professional in the literature.

Business literacy is the ability to know about and understand business concepts across the spectrum of business practice and to be able to effectively integrate content from various disciplines. Business literacy includes familiarity with terms, concepts, and the interrelationships between various business and professional disciplines and how they deliver synergistic value to the firm.

Benefits of increased business literacy include:
- Comprehension of how one's job affects the overall enterprise
- An understanding of where and how one's discipline fits within the total organizational framework
- Decreases anxiety in times of organizational stress because all firm members speak a "common language."
- Prevents discipline myopia
- Ensures that one's function/role/division is contributing to organizational goals
- Aligns functional goals with organizational goals for consistency and continuity
- Promotes integration of strategy
- Better decision making
- Better financial performance
- Helps prevent fraud because there is a greater understanding among many organizational members

Computer science (CS) and related fields, while traditionally considered a functional business specialty, has been seen primarily as a highly specialized, technical, support function. For example, maintaining communication networks, data analysis, creating and supporting application software, etc., has been the traditional scope of CS.

However, as modern organizations have increasingly employed technology to gain competitive advantage, computing practitioners have found themselves on the front line of business. Computing practitioners are called on to design business software of important strategic value, and engage in complex business endeavors such as business process modeling and automation.

Business literacy has become a necessity for understanding and participating effectively in a modern enterprise.

PURPOSE OF STUDY

The purpose of the study is to assess the current level of business literacy among computer science majors in undergraduate programs. This is important because we are training future generations of practitioners and professionals and this could impact their competitiveness in the marketplace and also could impact the competitiveness of the firm for which they work. This study grew out of comments from business professionals that CS and related students were poorly equipped to enter the workplace and begin working on project without first addressing their business knowledge deficiency.

IMPLICATIONS OF STUDY

The implication is that it can be used to gauge effectiveness of CS programs and help in constructing programs that are designed to integrate business knowledge across the curriculum in CS programs.

RESEARCH QUESTION

Do computer science students have equivalent business literacy as business and non-business (non-computer science) students?

HYPOTHESES

H1: CS students will exhibit less business literacy than traditional business administration students.
H2: CS students will exhibit more business literacy than non-business majors.

METHODOLOGY

Data collection consisted of students completing a 20 question Business Knowledge Quiz, developed for this study, with questions from management, leadership, marketing, and economics.

The study is descriptive, measuring level of business literacy among college students.

Sample: A representative sample of CS, business administration, and non-business majors will be chosen using a convenience sample of students enrolled in computer science, business, and non-business students to determine of the level of literacy differs among groups.

Analysis was conducted using the *t*-test to assess similarity or lack of similarity between computer science, general business, and non-business students using a business literacy questionnaire.

FINDINGS

Our study showed that computer science students differed from business students but did not significantly differ from non-business majors. Business students scored higher on average than computer science and non-business majors on the quiz.

The implication is that computer science students need additional training in the fundamentals of business so they can integrate their technical skills in more business environments and also be more successful in being promoted into positions requiring more integrated business knowledge.

Appendix A

Business Knowledge Quiz
(for illustrative purposes)
(Please answer each question as true or false)

1. The Americans with Disabilities Act guarantees that disabled persons are hired before non-disabled persons.
2. Legal protection for a process of manufacture or design is a trademark?
3. "Employees are inherently lazy and will avoid work if they can" is a statement most likely made by a Theory X manager.
4. Products, Prices, Profit, and Planning are the 4 P's of Marketing.
5. A restaurant that buys perishables for use in meal preparation would use the FIFO method of handling inventory?
6. Personal liability for a business loan can be avoided by organizing a business as a corporation.
7. Kellie's company is based in Houston, TX. They sell products to a company in Nashville, TN. The contract indicates that the buying company takes ownership in Houston and is responsible for transportation costs. This would be an example of F.O.B Destination.
8. The total amount of a given product which people are willing to buy at a particular price is referred to as supply.
9. The U.S. sells $3 billion worth of farm equipment to Germany. Germany sells $1 billion worth of chemicals to the U.S. Based on this scenario, the U.S. has a trade deficit with Germany.
10. Strategic planning is short-range planning; tactical planning is long-range.
11. When we engage in competitive benchmarking we compare our practices with those we regard to be the best and see how we rate.
12. Span of control refers to the number of different markets a business can serve efficiently.
13. A person who takes the risk of starting and managing a business is known as an entrepreneur.
14. The amount of revenue earned by a business can be found by subtracting its costs and expenses from its profit.
15. Trade protectionism is the use of government regulations to encourage the import of goods and services.

16. The type of business alliance where one company buys another company is called a merger.
17. A harvest strategy is used when a product is in decline and the company wants to continue to sell until break-even is reached.
18. The IRS regulates a company's stock offering.
19. The majority of new products on the market fail within the first year.
20. Transformational leadership is characterized by both the leader and follower growing through the leadership process.