Oklahoma Research Day Abstracts   2014 Oklahoma Research Day

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05. Information Operations Management

University of Central Oklahoma

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Abstracts from the 2014 Oklahoma Research Day

Held at the University of Central Oklahoma

01. Business Administration

05. Information Operations Management

01.05.01 Supply Chain Learning, Integration, and Flexibility Performance: An Empirical Study in India

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Supply chain flexibility has been acknowledged as a necessity in the context of constantly changing operational and service requirements in the global marketplace. However, limited research has focused on analyzing and empirically testing the dynamics of achieving enhanced flexibility performance. The current study attempts to address this research gap by introducing supply chain learning as a key driver in the process.

01.05.02 Disaster Planning and Recovery for Small and Medium Sized Businesses: A Guide to Success

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Preparing for a disaster is important for any business, including small to medium sized businesses. However, most small businesses lack the knowledge and resources to ensure quick recovery after a disaster. Much of the literature available to help guide businesses through the IT recovery planning steps or business continuity planning is geared towards large businesses or government organizations. Frequently, small businesses find that constructing a plan is overwhelming and labor intensive. Contracting a vendor to perform these services can also be expensive and time consuming since the business's employees are the ones with the knowledge needed to prioritize and direct recovery planning. The lack of disaster planning is putting many small and medium sized businesses at risk for failure. The main object of this research was to find an easier and more affordable method for small businesses to identify and protect their technology assets in the event of a disaster, accidental data corruption, or a cyber-attack. The five-step plan includes: identify critical software and data then estimate its value to the business, define a backup plan, prioritizing based on system or data value, test the system and data backups, test recovery procedures (at a service data center if it is not possible to test with current business IT resources), and evaluate service level agreements with contractors.

01.05.03 A Government-Industry-University (GUI) eCareer Model for Building 21st Century Skills

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This paper presents a GUI model which was implemented by collaborating with partnering institutions and incorporating emerging simulation technologies to create job-shadowing modules (referred to as eCareer Builder hereafter). Authentic learning environments help build the high school to college pipeline for difficult to recruit for disciplines in STEM. Partnering institutions include MIPT, OSBI, and Edmond Police. The target population included high school students in grades 9-12 attending any of 250 high schools across the state of Oklahoma. The sample included 33 students who were randomly selected to attend a summer career academy. The research design was a triangulation study with a mixed method. A career survey consisted of demographics, closed-ended, and open-ended questions. The career survey was administered to participants as a pre- and post-test. Quantitative data were derived from closed-ended questions to gain insights on how eCareer Builder affected participants' satisfaction with learning, working in a team, and solving a problem. The qualitative data was derived from open-ended questions to triangulate the overall findings. Pre- and post-academy survey results indicated significantly improved attitudes towards S&T, career awareness of S&T, and career interest in S&T. Significant effects were observed for gender in several domains, with females receiving a greater benefit from the eCareer Builder modules and the camp overall than males. Additional ex

01.05.04 Risks Associated with External Storage Devices

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Data loss has always been a serious issue. Many small companies do not survive from even small data losses. A common method used to steal data is by using a thumb drive. Although external storage devices have been of great use to companies and businesses, it has also been the major source of data theft. Its use has been abused by hackers, employee's looking to make extra money on the side, and competitors. The purpose of this paper is to help small business owners better understand the problem by survey the literature concerning digital data loss with the intent of widening the understanding of this problem to the small business owner, and learn how to estimate the magnitude of data theft within their own company. The paper also demonstrate how easily an applied statistical technique can be used as an effective tool for providing valuable insight into the digital theft problem, and demonstrate how the unmatched count technique can be used to provide the small business owner with information concerning how large the data theft/loss problem within their own company may actually be. In the part of prevention, the paper is more focused on major prevention technics. Banning the use of thumb drives was considered an alternative solution or adopting stringent policies in an attempt to control their use. additionally, small business owners may learn how to define policies and use applications to avoid the problem altogether.

01.05.05 Event-Driven Object Modeling for Information Requirements Analysis

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Object modeling is a major part of conceptual modeling process. During object modeling, systems analysts often analyze users' requirements represented in textual descriptions. Then the systems analysts transform their understanding of the users' requirements into object models. Object modeling introduces the system analysts to a language game that transforms the representation of a given set of information system requirements by natural language into that by the object modeling language. The differences between the two languages have made object modeling a difficult task, especially for student systems analysts. As a result, object modeling is well-known as an error-prone process. Empirical studies show that more than half the errors which occur during systems development are requirements errors. In human cognition research, event models have been found to be a natural way to construct a cognitive situation. When comprehend a story, readers often construct an event model to represent the micro world of what is conveyed in the story. On the basis of the theories on human cognition, this article proposes event modeling as an intermediate model for object modeling. Systems analysts can not only model users' requirements in event models more easily, but also transform the event models into object models with fewer errors.

01.05.06 Business and the Spring Framework

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The Spring Framework is a lightweight, open-source solution that is designed to promote better java programming practices. It is designed to simplify application development by removing code redundancies when possible through additional infrastructure and non-intrusive functionality allowing objects to not depend on Spring classes. Spring is also an inversion of control container that controls the object life cycle and manages object dependencies. By promoting the use of aspect-oriented programming, Spring manages to separate system level services from business logic (Czarnecki). This module isolation provided by dependency injection allows the developers to test the atomic elements of the code before the rest of the elements are completed. Dependency injection in Spring works with anything that can be considered a "Plain Old Java Object" (POJO) and more. These features provide a core framework that makes re-inventing the wheel in Information Technology a thing of the past for the development team. From a business management perspective, a proper implementation of the Spring Framework provides the team with many more options. Maintenance becomes easier when modules can be isolated and tested using Spring, which means lower maintenance costs. It varies from business to business, but, generally, maintenance costs a significant amount more than the initial product development. Businesses that keep this in mind when making design decisions enhance their ability to o