

Are You In Control?

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If you're like me, the New Year is a time for reflection and goal setting. As each New Year begins I typically find myself reviewing the past year's accomplishments – assessing my previous successes and failures -- and establishing new goals for future achievements. As a part of this personal goal setting effort, I review my health – professionally, physically, and financially. I want to take control of any areas where there are deficiencies so that I am better able to survive in every respect in the coming year.

As managers, we are charged with this same task for our companies. We need to ask and answer questions such as: "*Are productivity levels optimal?*", "*Is the total cost of each product manufactured optimal – is profitability maximized?*", "*Does product quality meet standards?*", "*Are resources – labor, chemical, utility, energy, raw materials, etc. – all being optimally utilized?*", "*Are customers satisfied with our products?*", "*Can the products compete locally, globally?*", "*Can the products offered be expanded into new markets?*" "*Should the company expand?*" All of these questions beg the one summary question: "***Are you in control?***"

So what is ***control***? There are many definitions of ***control***. I will share one of my favorites. ***Control*** refers to our desire to affect the outcome of some process or set of conditions. In the industrial/manufacturing environment, knowledge of how the process should behave under normal conditions is used to identify and eliminate process variations so that control is achieved. Both manual and automatic techniques are utilized in this effort.

Is your company in ***control***? For most companies this is a tough question -- one that can only be answered by collecting and analyzing volumes of information, both historical and real-time, about the past and current state of the operations of a company. Oftentimes the amount of information collected is so massive and detailed that it is difficult to ***manage*** – let alone ***analyze***. Once the information is collected and collated into meaningful groups, ***decision support*** tools must be used so that it is properly analyzed. These tasks are impossible to perform manually without the use of technology. ***Information technology***, then, is a key facilitator of both the assessment and goal-setting tasks that are performed by today's companies—tasks that must be completed in order to survive.

An ***information system*** is the combination of computers and people used to provide information to aid in making decisions and managing a firm. But what is ***information technology***? ***Information Technology***, or ***IT***, is a wonderful acronym that is being used to inculcate in the minds of every level of corporate and middle management the concept that all of the computer systems in a company – regardless of whether they are used at the plant floor or in the board room – are a part of the company's investment in technology. *And with this new concept comes the opportunity to revamp the computer systems organization so that it encompasses staffing, systems, and support personnel for every information technology need within an organization.* And companies across the nation and the world have embraced the ***IT*** concept.

According to Post & Anderson (2000), the types of ***IT*** in an organization are related to the organizational levels at which information systems are being used to solve

business problems or address management issues. Management issues or business problems that are addressed typically addressed by **IT** are categorized as **strategic**, **tactical**, or **operational**, and can be depicted as follows:

Types of IT



Courtesy: Post & Anderson

The various types of **IT** that are available can be grouped in conjunction with these types of management issues. At the **strategic** management level is the **EIS** or the **Enterprise Information System**. At the **tactical** management level are the **ES** or **expert system** and **DSS** or **decision support system**. At the **operational** or business operations level are **transaction processing** and **process control** systems.

A company is **in control** when it is effectively utilizing **IT** -- **strategically**, **tactically**, and **operationally** to optimize its current operations and to look inward, outward, and across the entire organization for new opportunities for future improvements and growth.

Are you in control? In upcoming feature articles we will review each of the aforementioned types of **IT** in an effort to assist you, as managers, in understanding how these types of **IT** implementations can be used to assess the current status of your company, to provide improvements in the operations, and to achieve your future goals in the coming year.

Questions or comments pertaining to this article are welcome, and can be forwarded by e-mail to:

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About the Author

Dr. Peggie Ward Koon has over 25 years of experience in developing IS systems for plant process automation and process control; she is an author of technical articles and publications. She has authored nine technical publications, including "CIM Capitalizes on Distributed Controls", ***InTech*** Magazine (1995), "GAMMA -- Graniteville's Application Modules for Manufacturing Automation", ***IEEE Transactions on Industry Applications*** Magazine (1995), "Managing More With Less -- A Real-time Example of Optimized Resource Allocation", ***ISA Transactions*** Magazine (1996), "Textile firms automate to survive; here's how Avondale Mills does it", ***InTech*** Magazine (1998), "IT Management: Century 21", ***Industrial Computing*** Magazine (2001); *Industrial Computing Online* (2001), and a variety of articles on issues in textile manufacturing including partnering, process automation and process control, SPC/SQC, and IT management for such organizations as the Instrumentation, Systems, and Automation Society (ISA) and the Textile Fiber & Film Industry Applications Society of the IEEE. She is currently a Manager of IS Plant Systems at Avondale Mills in Graniteville, S.C. Dr. Koon is the Membership Chair for the Management Division of ISA, a Senior Member of ISA, and a member of the IEEE.

Dr. Koon is a General Motors Scholar and Graduate Fellow; she received her undergraduate degree from Smith College (Northampton Massachusetts) and has completed graduate studies at Georgia Tech (Atlanta, Georgia) and Kennedy-Western University (Cheyenne, Wyoming), where she received her doctorate degree in Management Information Systems.