Information Systems (IS) and Cybernetics: IR4.0 is Here

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The definition and challenges of Information Systems has been a major discussion among academics, its relation to Cybernetics has also been of interest lately. This notion has to be explored extensively in future research, however, I attempt to summarize our lesson with one reference, so far. This was delivered on 6 February 2019.

Introduction

Information Systems (IS) has been with us for a long time now, often confused with Information Technology, Information Technology is group of technology components communicating together to achieve some business objective, while IS as the process when using IT producing the output i.e. Information. In short, IS forms from the application of IT and processing thereof (Paul, 2007).

IS and Cybernetics

It was interesting for me to learn about Cybernetics, defined as an interdisciplinary science that looks at any and all systems from molecules to galaxies, these systems show similar characteristics such as self-regulating and self-organising, this is part of the fundamentals of ecology. I was hearing the word for the first time. It also interesting to learn the genesis of cybernetics as from biological sciences in the early 1900s. Unlike, Information Systems, there are systems such as galaxies that do not need intervention to exist. With the new Web 3.0 wave IS has evolves into Cloud Computing i.e. IAAS, PAAS, SAAS, etc. Ubiquitous Computing, Social Media and extensive Enterprise Planning.

Challenges of IS

Despite the incredible adaptation of IS there has been numerous legal and regulatory challenges, lately, in European Union, the introduction of the General Data Protection Regulation (GDPR) has brought challenges that affect trade between EU and non-EU countries. Another challenge has been cybersecurity, no data or information is secure or safe anymore. To protect peoples' information, e.g. South African government has introduced the Protection of Persona Information Act (PoPIA) which will be promulgated in 2019. This demonstrates that the industry regulation is being increased in order to provide assurance to the owners of data, the public in this case.

Maybe the question is, can't IS industry regulate itself like say Media and Academy. Lastly, IS has become everything and everywhere, it has lost its distinctness or boundary. Its definition has been challenged so often (Paul, 2017).

Conclusion

With the advent of the Industrial Revolution 4.0, automation of factory or plant functions means IS or IT has become part of the core business, elevated from being an enabler of business. This has shifted the pressure of work again from the factory or plant floors to the IS or IT departments, this also translates work pressure for IS and IT professionals. So IS has been so spread across organisations that we cannot distinguish its boundaries (Paul, 2007). The demand in the IS profession will skyrocket, however, not as separate discipline but as part of other disciplines, industry will demand that every profession equip itself with IS and IT skills. Watch the video below to illustrate how IS has growth or evolved into the forth Industrial Revolution.

Reference(s)

Paul RJ, (**2007**), Challenges in Information Systems: Time to change, *European Journal of Information Systems,*16, 193–195

Industry 4.0 – The Fourth Industrial Revolution

https://www.youtube.com/watch?v=HPRURtORnis