

Effectiveness of Automation-A Review

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Abstract- This paper purposes to review about the effectiveness of Automation and its Technology related to the improvement or subjects it can bring to the basis day or future.

Keywords- Automation, Control, Robots, Computer Software, Information Technology

I. INTRODUCTION

There is a growing literature on Automation and Quality [1-10]. The automation as being the advice to reduce mistakes and improve devices [11]. Automation can be basically described as a process to turn everything that was made manually to become an automatic process. Automation also can be a dangerous invention, once again, the automation is taking place of a manual action, can be very safe or very dangerous [12]. Automation can be very helpful to Industrial environment, makes process fast, reduces errors and improves production. Control works direct to Automation, helps in a regulation of the advices Tocher, 1970). Fixing errors made by human's nature [13]. The advice can be called also Robots, automatic devices controlled by applications [14]. This technology is changing fast [15]. Is a universal device easily to be operated according to programmers [16]. Computers software in other hand is very difficult to define. The software can be very helpful, easy, and understandable . [16]. But other finds show that computer software can be harmful, and go against security [17]. To protect data and information the IT or Information Technology works to protect databases from being hacked. Is the most revolutionary innovation of the century [18]. Helps organizations effectiveness and success [19]. All those technologies tools are connected, the utilization of those tools is helpful to improve process and to bring information and technology to everyone. There is a lack of research pertaining to Control and Automation, this is considered a "new area of Engineering.

II. AUTOMATION AND ITS TECHNOLOGY

Automation is the process to make devices, machines work automatically. This process takes places of human labor. Automation was created to improve process quality in variables such as time, errors, effectiveness. In this paper, the similar Technologies are divided in Control, Robots, Information Technology and Computer Software

A. Control

Control can be variable: to an engineer, control is an answer of a variable to respond to an external disturbance. There are different meanings depending on which area the control will be used [4]. Control limit helps to find limits and improve economically speaking [11]. Control improves activities made by "men" [13]. Controller improves production [3]. Control improves performance [5]. Control engineering is the field concerned brings feedback using program to improve production [20].



Figure 1. Control and related subjects

One advantage of the active controllers is the feedback gains that will be improved during the years. [21]. The name of CONTROLLER, seem to be important to United States. Its introduction has matched with the fast expansion of American-owned industry in Great Britain over in the past decade Its typically used in industrial fields and very effective [22]. Controller and managers usually does not have the same perception when they work together, the controller's job is tom make sure the process is happening according to the plan [23]. The difference between controller and site is, a site is a property where one or more controllers are installed [24]. Secondary controllers are composed by: magnetic contactor-resistor combinations, motor-driven switch-resistor combinations, liquid rheostats, storable reactors, and magnetic amplifiers. [25]. Rate control is basically a tool to to measure quality of service [26]. Should be used only to help administration, but it is commonly used regarding to law matters [27]. Rate Control can be used to measure costs [28]. Because it is used to measure costs, Rate Control can be related to political corrupt administration [29]. To evaluate marketing strategies and development, Rate control is a powerful tool [30]. Control System is responsible to determine optimal steering [31]. It is a based-model-oriented system that helps answer questions about quantitate, distances and capacity, which actions should be considered. After answer does questions it easier to decide about the plan [32]. Control system

involves several elements such as, compensation plan, the sales quota system, and the performance appraisal plan and helps to improve performance [33]. However, it is also rare if a well industrialized and properly used and improve levels of customer service [34]. Control systems can make industrial system more effective. It is used as a strategy to get answers between three levels of feedback from the control system to the industrial relations system., so the Industry can plan the next level decision [35]. Control Theory is the use of tools (mathematical, system etc.) to obtain results [36]. Control philosophy has been an growing subject nowadays because of its wide applications and its close connection to operator theory on Hardy spaces. [37]. Is used to explain th continuo flow of information [38]. A conceivable overview to explain control theory consists in the assumption that all limitations are random variables with a known dispersal [39]. Control is presented in all subjects, is related about everything, it is a politic, social, industrial matter [40].

B. Robots

Robots can be automatic or mechanic equipment [14]. Robots can be used in innumeros different areas of production [41]. Robots are used in laboratories and factories, there are a wild and vast probabilities of usage [15]. Robots that can do a wide range of employments. In any case, these "brilliant" machines are unusable without the essential programming that projects each machine and the entire work procedure to be both adaptable and proficient [42]. Robots are machine tools growing all over the world [7]. Robot is a worldwide device, which is simply programmable. It can be used for many kinds of operations, has certain range, and can handle different loads. Industrial robots are now undergoing large-scale development. If specific tools are required with a robot to handle or process a specific product in a certain stage of its manufacturing cycle, then these tools have to be specially designed for the job, although in some cases standard or existing tools will be available [16]. The automatic devices instantly tell scientists the temperature of reactors, which be- come dangerous when too hot, and are inefficient if too [43].

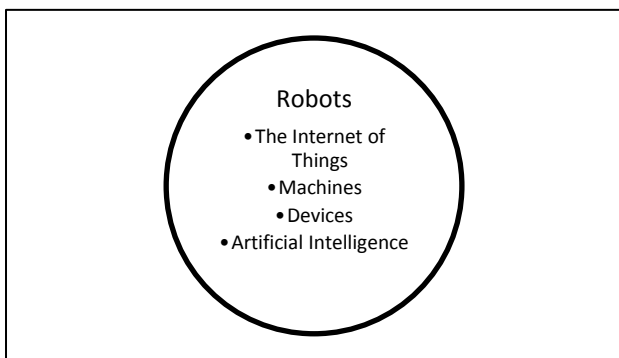


Figure 2. Robots and related subjects

Nowadays the number of electronics devices has been growing very fast, attending the most variated marketing [44]. Automatic devices are responsible for stabilizing programs. [45]. Are very helpful in economic system and tend to automatically respond business oscillations. [46]. One example is called servo- mechanisms, automatic devices for control purposes, including in airplanes. Other uses are in shock absorbers and recoil mechanisms [47]. When devices are improved, it implantation and use in the industry becomes necessary [48].

Machines are stored by programs that allows the use of this equipment in most diversified fields [49]. Machines are smart equipment, versatile that means the same machine can be used for many quite different kinds of tasks [50].Machines can be used to do calculus, which handle numbers expressed as a series of digits, as they are handled in ordinary paper and pencil arithmetic [51]. Some machines are not so precise, what can be considered not useful to engineering [52]. A machines was seen in development of a method for preparing the necessary instruction with an electronic computer [53].

Internet of Things can be described as a technical interaction between networked machines to digitally enhanced collaboration between several users [54] The rise of the Internet of Things (IoT), is very significant. Devices and IoT interactions combined brings challenge to the learn process [55]. The next-generation Internet will have to focus on developing solutions for these challenges. [56]. Electronic label is an example of Internet of Things [57]. 2Technology has developing so fast, it is hard to know what is possible and impossible (2011, p. 3) But one thing is clear, IoT is present in everywhere [58].

Artificial intelligence is the science of building machines to do things that would involve cleverness if completed by human [59]. AI is briefly related to the computer subject, can be programmed to help social questions. There are future prospect for this matter subject [60]. AI is being studied, there are not relevant topics to prove that AI can substitute human intelligence [61]. Artificial intelligence (AI), it helps create an alert about the possibility of social phenomena and automatic discovery goes beyond the computer simulation, [62]. Artificial intelligence permits practical recreation models and help the client create, run, and translate reproduction tests. More advantages are exhausting in the following years [63].

C. Computer Software

Computer Software is not easy to explain because is based in subjective decisions, it is based in faults to improve the system [8]. Computer software can be protected by using a powerful and safe system, however attention is needed to make sure this will going to work [64]. Computer software is difficult to be defined by a patentable technology [65]. Computer software industry is distinguished as custom PC programming administrations, hand crafting administrations, and prepackaged programming administrations [66]. Computer

software is universal today. The rate if compared to traditional products is much larger [17].

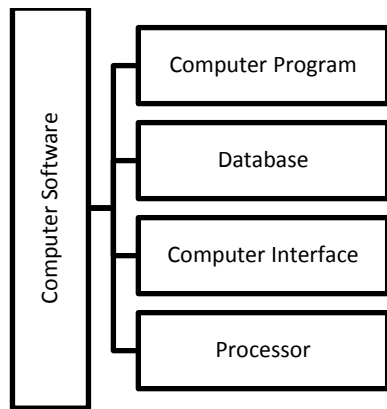


Figure 3. Computer Software and related subjects

Computer program is the representation of data and commands, intended to make computers and other computer devices work and obtaining a specific result. [67]. It is interconnected in diverse subjects [68]. Computer Program is economically better [69]. With the rapidly technology development some computer programs are questionable [70]. A computer program is mostly a strategy to control computer’s activity [71].

Database is very useful to Marketing environment [72]. Database can be smartly defined likely data. It is related to Programing as well. [73]. Database also can be used for administrative matters [74]. Database and programs use languages to write applications [75]. Database is very important to Software development and usage, that helps it to rotates perfectly [76].

Computer Interface is hard to be defined can be fast vs. slow covert counting task. [77]. Creating a computer interface can be helpful to create a better environment for different performance [78]. The second generation of computer interfaces has new languages. These languages, called assemblers, allowed programmers to talk directly to the machine [79]. Computer interfaces are usually created on the combination of keyboard and display allows the interaction between users and computers [80]. The idea of knowledge assimilated by learning is often considered unwanted in relation to computer interfaces, where immediate usability is more highly appreciated [81].

Processor allows several instructions to be executed at the same time without blocking the system [82]. Canada can be considered a big program developer [83]. People are amazed about what computer can do and more concerned with societal responses to digital technology. [84]. In the straight on march

of contraction, a computer processor that's slightly is only one of the variable tools to helps in Technology [85]. With just a single PC processor, the technique the mathematicians created is about as expedient as any calculation now accessible. The quantity of processors utilized expands, their strategy shows to be genuinely faster [86]

D. Information Technology

Information technology is the ability to absorb information about the most recent exploration activities in laboratories around the world [87]. IT, is one of the most advanced innovations of this century and maybe all of human history. [18]. Information Technology is the ability to greatly reduce communication and transaction costs and in its degree of universality across all aspects of the economy and the society as well as geographically [18]. IT improves quality of service sector output as well as on productivity [88]. IT makes it more likely that restored management what makes the organization more effective and well organized [19]. IT helps human tasks in many aspects such as production or education, trade or consultancy; protection or conducting of a war, or the manufacture of steel or spreading of goods [89].

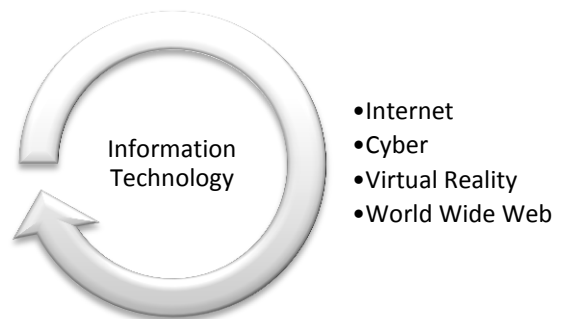


Figure 4. Information Technology and related subjects

Internet is nowadays something that is extremely important, soon the wireless internet, for instance, will be something that people will not live without [90]. The internet is used equally between man and women [91]. Currently, students have the opportunities to learn by utilizing the Internet in Web-based instruction. However the use of internet to self-learn can cause impacts on the education [92]. The Internet has developed as a valuable tool for health information. Half of the U.S. population in 2001 had some o poorly access to Internet [93]. Internet access and usage it’s growing year by year in the world, bringing faster interaction between people and more entertainment [94].

Cyber, like other facets of technology is used to help government [95]. The cyber-attack is one of the most problems that Technology brought with the popular use of

internet [96]. Different thoughts of the cyber danger around the world illustrate that countries vary in the way they perceive their own weaknesses. [97]. Cyber-attacks nowadays is about political issues. The US military's geek soldiers are now ready to fight, against computers enemies [98]. Cyber-military is always ready to fight cyber-wars [99]

The meaning of world wide web (www) is to provide a unvarying, user approachable interface to the Internet [100]. Political empowerment can be discussed using the world wide web related to Technology Information. [101]. World Wide Web (the Web) characterize important progressions for the literature and education [102]. Technology is developing very fast and the Internet and the World Wide Web is growing as well, given users the opportunity to have instant access to endlessly information in several scientific fields [103].

Virtual reality is related to computer-generated 3D real-time. Allowing to have an experience to be in a different environment virtually [104]. Tends to engage audience to whatever they are watching or playing [105]. Virtual Reality is already being used for numerous things, for instance games and theaters, giving to the audience diversified experiences. [106]. It is a very interesting subject, maybe the right word is Amazing! [107]. Some virtual reality was presented in old books, maybe it was an impossible idea in the age, but now is right here [108].

III. EXPLANATION ABOUT TOPIC

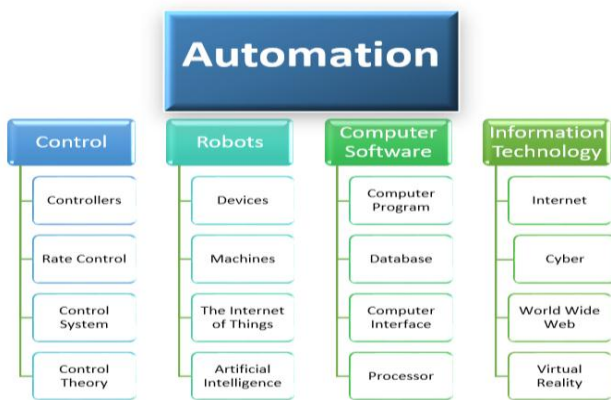


Figure 5. Explanation about the topic

Automation is growing and making life easier and practical, technology day by day more useful. Interleaved to this subject is the Control Automation, that is the answer of a variable to an external disturbance [11]. There are numerous tools that are used to improve automations in machines. Control improves production and brings process near to perfection as possible. This is possible using controllers. Controllers are in control of

getting feedbacks from machines. Those feedbacks can be measured by Rate Control, that is basically a tool to measure quality of service or program. It is also a powerful tool to measure development [5]. Control System is based in a model-oriented to determine optimal rotation, helps to improve the notion of quantity, distance and capacity [20]. It is responsible for Industry effectiveness. The Control Theory use tools to obtain results and explain the flow of information. Robots it is a hot Technology that may be take the place of numerous devices in the future. Can be Automatic or Mechanic and be used in many different areas of Technology. It is Considered a World-Wide device. Devices Technology are growing very fast and making people addicted to it (can be considered in a bad or effective way, depend the point of view). It is a very helpful tool to education, politics, economy, technology and so go on [44]. Other Technology very important to be mentioned are Machines. Machines are clever equipment stored by programs and operated by human or programs. The Technology is each day more developed, and allowing the interaction of human and machines, this interaction can be explained by the Internet of Things. Internet of Things of present in everywhere nowadays, it is a very useful tool. The new Technology, also brings more development to Artificial Intelligence that is a very important device to simulate and create new Technology [63]. Computer Software is based in what not work to make improvements to the System, it is a universal and popular tool [8]. Computer Software is connected to other subjects, for instance, Computer Program. Computer Program is used to make the device to obtain a result. Database works as a filter to brings and storage only necessary information. Computer Interface is a important tool to make computers and programs to be a global implementation [79]. Again, talking about Computers, we can mention the Processors. Processor allows the system works clearly, without interruption or errors. Information Technology works captivating information and improving communication. It also improves machines faults. Internet that is something very important in this century [18]. Allows information to circulate quickly around all over the World. With the rapidly developing of Internet some problems also appeared. Those problems can be called Cyber, there are many kids of Cybers, Cyber-crime, Cyber-attacks etc. It is important to be aware about those topics [97]. Talking about internet and Cyber, we can also mention the called World Wide Web, it is the Interface to the Internet, this technology allows to access information using internet from all over the World. And about almost everything. This new Technology (but very much studied in the past) called Virtual Reality allows involvements such as, to experience being in two different environments at the same time (games, theaters).

IV. RESULTS AND DISCUSSION

As a result of the researches, this paper shows that Technology is growing very fast. It is important to implement and make use of all the tools that we already have. The

Automation is an important part of Technology, Automation helps to improve human errors. This subject is interconnected to numerous others Technology gears [1]. In this paper was possible to review and observe some very important contributions Technology's tool bring to the present days and to the future.

It is important to emphasize that; however, Technology tools makes life easier making information being very accessible and machines working to do almost everything [15]. This "access" to personal information can cause harms (cyber). It is important to make sure that Computer programs are safe are devices were not hacked in to it. Control enhances creation and conveys prepare close to flawlessness as could be allowed. This is conceivable utilizing controllers. Controllers are responsible for getting inputs from machines [100]. Those inputs can be measured by Rate Control, that is fundamentally a device to quantify nature of administration or program. It is likewise a capable device to gauge improvement. Control System is situated in a model-arranged to decide ideal revolution, enhances the thought of amount, separation and limit It is in charge of Industry adequacy [105]. The Control Theory utilize devices to acquire comes about and clarify the stream of data. PC Software is situated in what not work to make enhancements to the System, it is an all-inclusive and prevalent apparatus. PC Software is associated with different subjects, for example, Computer Program [7]. PC Program is utilized to make the gadget to acquire an outcome. Database acts as a channel to brings and capacity just important data. PC Interface is an essential device to make PCs and projects to be a worldwide [16]. Once more, discussing Computers, we can specify the Processors. Processor permits the framework works plainly, without interference or mistakes. Data Technology works spellbinding data and enhancing correspondence. It likewise enhances machines deficiencies. Web that is something vital in this century. Permits data to flow rapidly around everywhere throughout the World [109]. With the quickly creating of Internet a few issues likewise showed up. Those issues can be called Cyber, there are many children of Cybers, Cyber-wrongdoing, Cyber-assaults and so forth. It is imperative to know about those themes. Discussing web and Cyber, we can likewise specify the called World Wide Web, it is the Interface to the Internet, this innovation permits to get to data utilizing web from everywhere throughout the World [110]. Also, about practically everything. This new Technology called Virtual Reality permits contributions, for example, to experience being in two distinct situations in the meantime.

Mechanization, the utilization of machines to assignments once performed by people or, progressively, to errands that would somehow or another be unimaginable [7]. Despite the fact that the term automation is related to the substitution of human workforce for machines, this can be introduced as the combination of the two kinds of work, human and machines [5]. Computerization has altered those territories in which it has been presented, and there is hardly a part of current life that

has been unaffected by it, that means human will never be totally replaced by robots. When all is said in done utilization, mechanization can be characterized as an innovation worried with playing out a procedure by methods for modified summons joined with programmed criticism control to guarantee appropriate execution of the directions [13]. The subsequent framework is fit for working without human intercession. The improvement of this innovation has turned out to be progressively subject to the utilization of PCs and PC related advances. Subsequently, robotized frameworks have turned out to be progressively refined and complex, where it is very difficult to get perfectionism to replace human capacity [14]. Propelled frameworks speak to a level of capacity and execution that outperform from numerous points of view the capacities of people to finish similar exercises. Computerization innovation has developed to a point where various different advancements have created from it and have accomplished an acknowledgment and status of their own [16]. Mechanical technology is one of these advances; it is a specific branch of computerization in which the mechanized machine has certain human, or humanlike, attributes. The most normal humanlike normal for a present day modern robot is its controlled mechanical arm. In the future this Technology will more and more effective and useful, bringing perfection in movements and tasks [19]. The robot's arm can be customized sheet-metal parts of a vehicle body amid get together. As these cases recommend, mechanical robots are commonly used to supplant human specialists in processing plant operations. By this it is possible to realize that Automation and its Technology is a powerful and prodigious tool for the future. to travel through an arrangement of movements to perform helpful errands, for example, stacking and emptying parts at a creation machine or making a succession of spot-welds on the

V. CONCLUSION

In conclusion, Automation and its Technology it is occurring of World, we can consider the new Automatic Technology used in this day to make life laid-back. a case of a mechanized email grouping is an appreciated program where a progression of messages are sent to new endorser, for example, a prospect or arrangement. A more propelled welcome succession will incorporate element content in boards with innovative and applicable focused for various portions. Taking everything into account. Basically, anything you can consider is the result of complex techniques. Without talented individuals to setup, collect, upgrade, and keep up these strategies, these mechanical advances would never have happened and future improvements would be incomprehensible. Without robotization specialists, our world and our future would be inside and out various. Computerization specialists manage dealing with complex issues in various key parts of industry and its strategies. The work of computerization specialists is on a very basic level basic to the protection of the prosperity, security, and welfare

of general society and to the supportability and overhaul of our own fulfillment. Robotization specialists do and will continue having a noteworthy influence in protecting us from advanced attack; updating our own fulfillment; and ensuring the enduring quality, capability, security, relentless change, and force of our electric power systems, transportation structures, delivering operations, and industry all things considered. Without these individuals, we can't advance into what's to come. Actually, the computerization idea is not new, for instance, mechanized email groupings are a key component of promoting robotization that have been accessible for no less than 10 years in numerous proficient ESP stages.

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