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REVIEW ON VARIOUS IDEAL SYSTEM MODELS USED TO IMPROVE THE CHARACTERISTICS OF PRACTICAL SYSTEMS

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Abstract:

Ideal properties of a device or a system can be used to upgrade or improve its properties towards reaching 100% efficiency. By comparing the properties/characteristics of a practical device/system with its ideal counterpart, one can find out the possible modifications in that device /system towards reaching the objective of achieving such an ideal system. Even though ideal systems are hypothetical systems, which cannot be realized completely in practice, gives a broad idea on how the practical systems can be improved continuously to reach ideal system characteristics. The ideal system characteristics of technology, business, education, banking, electrical energy, software, computing and strategy, discussed in this review, under input characteristics, system characteristics, output characteristics, and external characteristics shows an opportunity to the scientists and engineers to develop such practical systems further with an objective to reach the goal. Based on the review, we have also discussed the possible characteristics of some of the future anticipated systems like ideal automobiles, ideal library, ideal home, ideal human being, ideal organization, ideal city, and even, ideal world.

Index Terms: Ideal Systems, Ideal Technology, Ideal Business, Ideal Electrical Energy Source, Ideal Banking System, Ideal Education System & Future Ideal Systems

1. Introduction:

A system model is a conceptual model used to describe and represent a system. A system comprises of various processes used to convert some form of input into required form of output based on its objectives. A system will have its own control mechanism to convert the input into output. The performance of the system depends on two factors as the objective of the system and the environmental of the system. Further a system is a set of interrelated components. The systems are orderly arranged according to a design and each component has a definite function to perform in the system. The components forming a system are called subsystems. Each such subsystem can further be divided into lower level subsystems. This process of dividing system into lower level subsystems is called factoring of a system and this can be carried on until we get a unit, which is easy to manage. A system can also be defined as an organized or complex entity, combination of things or parts forming a complex entity. The system may be Physical or Abstract. The physical system is a set of elements which operate together to accomplish an objective. Physical systems are made up of objects such as land, building, machines, people and other tangible objects. An abstract system is an orderly arrangement of ideas, concepts, or constructs. The physical systems produce some outputs which may help to achieve its defined objective. Organization systems are more meaningfully defined as an array of components designed to accomplish a particular objective according to a plan. The general model of a physical system is a collection of related elements. These elements take the form of input, process, and output. The objective of the system decides the system, subsystems, their functions and the systems environment. The features which define and delineate a system form its boundary. A model is a simplified representation of an operation, or is a process, or a system in which only the basic aspects or the most important features of a typical problem under investigation are considered. The objective of a model is to identify significant factors and interrelationships. The reliability of the solution obtained from a model depends on the validity of the model representing the real system. A good model called ideal model must have the following characteristics:

- ✓ An ideal model should be capable of taking new formulations into account without having any changes in its frame.
- ✓ Assumptions made in the model should be as small as possible.
- ✓ Variables used in the model must be less in number ensuring that it is simple and coherent.
- ✓ It should be open to the parametric type of treatment.
- ✓ It should not take much time in its construction for any problem.

The significant advantages of using a model for a system are:

- ✓ Problems under consideration become controllable through a model.
- ✓ It provides a logical and systematic approach to the problem.
- ✓ It provides the limitations and scope of an activity of the system.

It helps in finding useful tools that eliminate duplication of methods applied to solve the problems.

- ✓ It helps in finding solutions for research and improvements in a system.
- ✓ It provides an economic description and explanation of either the operation or the systems they represent.

Predictive Models predict facts and relationships among the various activities of the problem. These models do not have an objective function as a part of the model to evaluate decision alternatives. In this model, it is possible to get information as to how one or more factors change as a result of changes in other factors. An example of predictive model is the model of an Ideal system. Descriptive Models describe facts and relationships among the various activities of the problem. These models also do not have an objective function as a part of the model to evaluate decision alternatives. In this model also, it is possible to get information as to how one or more factors change as a result of changes in other factors. An example of descriptive model is the model of a real system.

In this paper, we have reviewed ideal properties of various hypothetical systems which can be used to upgrade or improve their properties towards reaching 100% efficiency. By comparing the properties/characteristics of a practical device/system with its ideal counterpart, one can find out the possible modifications in that device /system towards reaching the objective of achieving such an ideal system. Even though ideal systems are hypothetical systems, which cannot be realized completely in practice, gives a broad idea on how the practical systems can be improved continuously to reach ideal system characteristics. The ideal system characteristics of technology, business, education, banking, electrical energy, software, computing and strategy, discussed in this review, under input characteristics, system characteristics, output characteristics, and external characteristics shows an opportunity to the scientists and engineers to develop such practical systems further with an objective to reach the goal. Based on the review, we have also discussed the possible characteristics of some of the future anticipated systems like ideal automobiles, ideal home, ideal human being, ideal organization, ideal city and even ideal world.

2. Ideal Systems:

It is well known that we can improve the performance of any system by comparing it with a hypothetical, predicted system of that kind called "Ideal system" [1]. The word 'Ideal system' refers to the system which has ideal characteristics i.e., perfect in every way. It is what the mind pictures as being perfect. The characteristics of the present system can be improved towards the characteristics of the ideal system by doing research and innovation. The concept of an ideal gas, ideal fluid, ideal engine, ideal switch, ideal voltage source, ideal current source, ideal semiconductor devices like ideal diodes, ideal transistors, ideal amplifiers etc. have been defined and taken as standards to improve the quality and performance of such practical devices or systems. Some of the ideal systems are listed table 1, along with their definitions. It is found that, by keeping such hypothetical devices or systems in mind, researchers have continuously been improving the characteristics/properties of practical devices / systems to upgrade their performances. Hence, ideal properties of a device or a system can be used to upgrade or improve its properties towards reaching 100% efficiency. By comparing the properties/characteristics of a practical device/system with its ideal counterpart, one can find out the possible modifications in that device /system towards reaching the objective of achieving such an ideal system [2].

Table 1: Some of ideal systems in science, engineering and social sciences with their definitions

S.No	Ideal Systems	Definition of Ideal Systems
1	Ideal gas	A hypothetical gas whose molecules occupy negligible space and have no interactions, and which consequently obeys the gas laws exactly.
2	Ideal fuel	It should possess high calorific value, moderate ignition temperature, burn without giving harmful gas, cheap and easily available everywhere, no risk during usage or transportation, burn completely, and burn smoothly.
	Ideal solution	An ideal solution or ideal mixture is a solution in which the enthalpy of solution is zero
3	Ideal fluid	An ideal fluid is one with constant density and has zero viscosity coefficient
4	Ideal Engine	A heat engine operating on perfect reversible cycle with 100 % efficiency.
5	Ideal switch,	An ideal switch would have no voltage drop when closed, and would have no limits on voltage or current rating. It would have zero rise time and fall time during state changes, and would change state without "bouncing" between on and off positions, with negligible power loss.
6	Ideal voltage source	It is a two-terminal device that maintains a fixed voltage drop across its terminals. It is often used as a mathematical abstraction that simplifies the analysis of real electric circuits.
7	Ideal current source	It is a current source that supplies constant current to a circuit despite the voltage dropped in the circuit. It act as a 100% efficient source of current: it has infinite internal resistance.
8	Ideal Diode	It is a diode that acts like a perfect conductor when a voltage is applied forward biased and like a perfect insulator when a voltage is applied reverse biased. So when a positive voltage is applied across the anode to the cathode, the diode conducts forward current instantly.

9	Ideal Transistor	The ideal transistor model the base and emitter are at the same AC voltage. They differ only by a constant DC potential. The collector current is equal to the emitter current and proportional to the base current.
10	Ideal Amplifier	Ideal amplifier has Infinite input impedance, zero output impedance, zero common-mode gain, or, infinite common-mode rejection, Infinite open-loop gain, and Infinite bandwidth.
11	Ideal Business	A business which as ideal input characteristics, ideal output characteristics, ideal system requirements and ideal marketing conditions [3-4].
12	Ideal Education System	Has an ideal characteristic under Input conditions, Systems requirements, Output conditions and Environmental & social conditions [5-7].
13	Ideal Technology	An ideal technology system should have characteristics to fulfil its objectives to solve all problems of human beings including both basic needs and advanced gadgets to support comfort living to realize their dreams. Based on various factors which decide the ideal technology system characteristics, a model consisting of input conditions, output conditions, environmental conditions and system requirements [2].
14	Ideal Strategy	It is the mixture of Red ocean strategy, Blue ocean strategy, Green ocean strategy, and Black ocean strategy, also called white ocean mixed strategy [8].
15	Ideal Energy Source	It provides an infinite amount of energy without any constraints of the load. It has 100% energy output efficiency [9]
16	Ideal Banking	Ideal Banking has ideal input conditions, output conditions, system requirements, and social & environmental conditions [10].
17	Ideal Library	Ideal library system is a ubiquitous universal resource centre openly accessible by everybody online to get any type of information from various databases, e-books, Journals and any other type of publications free of cost electronically [11].
18	Ideal software	It is a general purpose software model which can be used for any platform, any type of system, and application automation, without making modifications in the form of structure, coding by an external person/agency [12].

3. Ideal Technology Model:

The concept of ideal technology can be predicted as a technology which can solve all basic needs of human beings and provide a luxurious comfortable life without affecting the society and environment. Ideal technology should have characteristics in order to elevate the quality of life to a unique level with perfect equality so that every human being in this universe should lead happy and comfortable life and realize the so-called concept of heaven on earth. Based on various factors which decide the ideal technology system characteristics, a model consisting of input conditions, output conditions, environmental conditions and system requirements [2]. The input properties are: (1) Manipulate the fundamental nature of matter to provide solutions to basic and advanced problems of mankind. (2) In-expensive & self-reliable in terms of resources to make it attractive to be used by people/countries of varied economical situations. (3) Ubiquitous so that the technology provide solutions and services at anytime, anywhere, any amount of time to the users. (4) Affordable to everybody so that it uses common materials available in nature and manipulate effectively to the need of human being at an affordable cost. The Output properties are (1) Solve basic needs like food, drinking water, renewable energy, clothing, shelter, health and clean environment. (2) Provide comfort life to the users by providing solutions to their desires. (3) Equality ; ideal technology provide equal opportunity and similar solutions to every user irrespective of their gender, religion, background, education, economic status, and country of origin. (4) Automation; ideal technology automate all processes in every type of industries to avoid human interference in work/control in order to provide an expected output based on programming. (5) Immortality is the ultimate goal of ideal technology so that it can create an avenue for deathless situation or enhancement of human life span. The System Requirement Properties are (1) General purpose technology to support all fields and problems of human & living beings on the earth. (2) Self-directed & self-controlled & self-regulated so that the technology can control itself in order to achieve its goal. (3) Easy, simple, quick & user-friendly to solve all type of problems and to provide a quick ideal solution. (4) Scalable so that it is used for solving the small and simple problem to large and complex problems of life. (5) Omnipotent to identify and solve problems and provide comfortability to a human being and feeling him like God. (6) Exploring new opportunities to improve and explore comfortability and further leisure in the life of people. (7) An infinite potential for further development of life in the universe. The Environment/external Properties are (1) Maintain clean environment through its processes and avoids footprint of processes while achieving a specific function. (2) Infinite business opportunities by creating new products / services with ideal characteristics. (3) Adaptive to any situations to achieve stated goal. (4) No side effects so that it should be safe for users, and the environment. Any technology which has the above properties/characteristics is considered as ideal technology and the conventional technologies have serious drawbacks/limitations in terms of the above properties [2]. Many research

publications focus on solving various problems of the society by utilizing nanotechnology as an ideal technology [13-19].

4. Ideal Business Model:

An Ideal business system shall have characteristics which can be predicted and classified. Based on various factors which decide the ideal business system characteristics, a model consisting of the input conditions, output conditions, market conditions and system requirements.

- ✓ The Ideal Business sells its products/services to the entire world rather than a single neighborhood and hence it has an unlimited global market.
- ✓ The Ideal Business offers a product/service, which enjoys an inelastic demand in the market. (inelastically refers to a product that people need or desire almost at any price.)
- ✓ The Ideal Business markets a product/service that cannot be easily copied. This means that the product/service is original or, at least, it is something that can be copyrighted or patented.
- ✓ The Ideal Business has minimal labor requirements. The fewer personnel, the better is the business.
- ✓ The Ideal Business operates on a low overhead. It does not need an expensive location. It does not need large amounts of electricity, or advertising, or legal advice, or high-priced employees, or a large inventory.
- ✓ The Ideal Business does not require big cash outlays or major investments in equipment or product. In other words, it does not require huge capital.
- ✓ The Ideal Business is relatively free of all kinds of government regulations or restrictions.
- ✓ The Ideal Business is portable or easily moveable. This means one can shift his business and himself anywhere he wants to.
- ✓ The Ideal Business satisfies its owner‟s intellectual needs. There is nothing like being fascinated with what he does.
- ✓ The Ideal Business leaves enough free time to its owner. In other words, it doesn't require his labor and attention of 12, 16, or 18 hours a day.
- ✓ The Ideal Business is one in which the income is not limited by the personal output (Leverage). In the Ideal- Business, one can have 10,000 customers as easily as can have one."
- ✓ The ideal Business will not have any liability after sales.
- ✓ The ideal Business will not have problems like seasonality, perishability and price drop.
- ✓ In ideal Business the demand is always very high than supply and the efficiency of production is always 100%.
- ✓ The ideal Business will be sustainable for a long time.

Any business which has the above properties is considered as an ideal business and the conventional business called brick and mortar business has serious drawbacks/limitations in terms of the above properties. Many research publications focus on improving the quality of business towards ideal nature [3-4, 20-21].

5. Ideal Education Model:

Education at its best will effectively prepare students for the working world. An ideal education system would not only prepare students for the working world but would also prepare them to become empowered to transform the working world to better suit the needs of the people. An Ideal education system shall have characteristics which can be predicted and classified. Based on various factors which decide the ideal education system characteristics, a model consisting of the input conditions, output conditions, system requirements, and social & environmental conditions [5-7].

- ✓ The Ideal Education provides education to the entire world rather than a single neighbourhood /Country and hence it has an unlimited global reachability.
- ✓ The Ideal Education offers courses of study, which enjoys an inelastic demand in the world market. (Inelastic refers to a Course that people need or desire almost at any price.)
- ✓ The Ideal Education provides all types of courses in all field of specialization and imparts knowledge, skills and experience to all people irrespective of their age, gender, previous qualification and country of origin.
- ✓ The Ideal Education system provides high-quality education to everybody irrespective of their economic, social, linguistic and cultural background.
- ✓ The Ideal Education system needs minimum instructors in identified courses and must utilize optimum service from them.
- ✓ The Ideal Education system operates on a low overhead. It does not need an expensive location, big campus and huge amount of infrastructure. Only a few Universities are required to provide quality education to the entire world.
- ✓ The Ideal Education system does not require major investments in equipment and other education & training. systems or repetition of a large number of universities in every state and every country. In other words, it does not require huge capital.
- ✓ The Ideal Education system is relatively free of all kinds of government regulations or restrictions.

- ✓ The Ideal Education system is portable or easily moveable. This means a student registered for a course should get the service wherever he moves.
- ✓ The Ideal Education system satisfies its student's intellectual needs. There are no constraints like compulsory subjects, minimum and maximum subjects.
- ✓ The Ideal Education system leaves enough free time to instructors as well as students. In other words, it doesn't require attention/study of 12, 16, or 18 hours a day.
- ✓ The Ideal Education system is one in which the income of the university does not limit by the personal output (Leverage). In the Ideal Education system, one can train 10,000 students as easily as can have one."
- ✓ The ideal Education system students can take exams anytime, any number of times and results should be declared immediately. There is nothing like losing a year due to failure in examination.
- ✓ The ideal Education system will provide services to its registered students anywhere, anytime and any amount of time. i.e., it is ubiquitous.
- ✓ In an ideal system, the technology is used in such a way that all pedagogies of the education system should be delivered effectively.
- ✓ An ideal education system provides all students with not only basic knowledge but also social skills and good behaviours.
- ✓ In ideal Education system, the demand for a variety of courses is higher than supply and the efficiency of the system is always 100%.
- ✓ In ideal Education system, the students have a choice of alternative in terms of course/service providers.
- ✓ The ideal Education system will be sustainable for a long time.
- ✓ Any education system which has the above properties is considered as the ideal education system and the conventional education systems called brick and mortar systems have serious drawbacks/limitations in terms of the above properties [5]. Several research publications focus towards improving the quality of higher education towards ideal nature [22-23].

6. Ideal Banking Model:

Ideal Banking System model by considering various characteristics under 4 categories such as Input conditions, Systems requirements, Output conditions and Environmental & social conditions, and analyzed these characteristics with an objective to achieve the goal. An ideal banking system would not only prepare students for the working world but would also prepare them to become empowered to transform the working world to better suit the needs of the people. An Ideal banking system shall have characteristics which can be predicted and classified. Based on various factors which decide the ideal banking system characteristics, a model consisting of the input conditions, output conditions, system requirements, and social & environmental condition is developed [10].

- ✓ The Ideal Banking system provides banking services to the entire world rather than a single neighbourhood town /Country and hence, it has an unlimited global reachability.
- ✓ The Ideal banking offers services to its customers, which enjoys an inelastic demand in the world market (inelastic means a service that people need or desire almost at any price).
- ✓ The Ideal banking system provides all types of banking services of both retail banking and business banking to all customers irrespective of their age, gender, previous qualification and country of origin.
- ✓ The Ideal Banking system provides high-quality banking services to everybody irrespective of their economic, social, linguistic and cultural background.
- ✓ The Ideal Banking system needs minimum employees in identified areas of operation and must utilize optimum service from them.
- ✓ The Ideal Banking system operates on a low overhead. It does not need an expensive location, many branches, and huge amount of infrastructure. Only a few Banks are required to provide quality service to the entire world.
- ✓ The Ideal Banking system does not require major investments in equipment and other infrastructure or repetition of a large number of branches in every state and every country. In other words, it does not require huge capital.
- ✓ The ideal banking system is relatively free of all kinds of government regulations or restrictions.
- ✓ The ideal banking system is portable or easily moveable. This means a customer registered in one bank should be able to get the services wherever he moves and in whichever city he lives.
- ✓ The ideal banking system satisfies its customers' intellectual needs. There are no constraints like minimum amount transaction, to be registered or avail services only in one bank, minimum and a maximum number of services availed per day.
- ✓ The ideal banking system leaves enough free time to service providers/bank employees as well as customers. In other words, it doesn't require attention/study of 12, 16, or 18 hours a day.

- ✓ The ideal banking system is one in which the income of the bank does not limit by a personal output (Leverage) of the bank workers. In the ideal banking system, a bank can provide any number of customers as easily as can have one.
- ✓ The ideal Banking system, customers can do transactions at any time, any number of times and results should be declared immediately. There is nothing like wasting time in queue, travel time to the bank etc.
- ✓ The ideal Banking system will provide services to its registered customers anywhere, anytime and any amount of time. i.e., it is ubiquitous.
- ✓ In an ideal system, the technology is used in such a way that all services of the banking system should be delivered effectively.
- ✓ An ideal banking system provides all customers with not only basic knowledge of banking but also on authenticity and security for financial transactions.
- ✓ In the ideal banking system, the demand for a variety of services is higher than supply and the efficiency of the system is always 100%.
- ✓ In the ideal banking system, the customers have a choice of alternative in terms of service providers.
- ✓ The ideal banking system will be sustainable for a long time.
- ✓ Any banking system which has the above properties is considered as ideal banking system and the conventional education systems called brick and mortar systems have serious drawbacks/limitations in terms of the above properties [24-32].

7. Ideal Energy Source:

An ideal electrical system must include the various characteristics to fulfill the objectives to solve the problems in the energy system. Based on various characteristics the model consists of three important conditions namely input conditions, system requirements and output conditions [9]. The various properties of an ideal electrical energy system are [33-34]:

The input conditions discuss the ideal characteristics of the energy system at the input side.

- ✓ Identify the fundamental nature of the input system at the production/ distribution/utilization.
- ✓ What are the differences between the practical input systems with the ideal system?
- ✓ How to reach the ideal system in the production/distribution/utilization.
- ✓ The challenges in reaching the ideal systems.
- ✓ The cost involved in improving towards the ideal system.

The output conditions have following properties:

- ✓ The energy system should provide complete solutions to the requirements.
- ✓ The energy of should not be wasted in the form of heat or electromagnetic wave.
- ✓ The energy system should completely avoid the hazardous shocks at its output.

The system requirements concentrate on what are the system requirements to achieve the ideal output in the energy production/distribution/utility.

- ✓ The general purpose technology to support all the processes in the production/distribution/utility.
- ✓ Easy, simple, and affordable system to support the ideal technology.
- ✓ It should support the further new opportunities for the improvements.
- ✓ The further new opportunities/improvements should upgrade the existing technology without replacement of the existing technology.

The impact of the new proposed ideal system on the environment are as follows:

- ✓ Environmental cleanliness.
- ✓ The amount of unwanted by-products from the system to the environment.
- ✓ Adaptive to any environmental situations to achieve the goal.
- ✓ No side effects assuring the users about the safety.

8. Ideal Strategy:

An ideal strategy is a planning and execution strategy which confirms the success of the work in any situational conditions and constraints. This strategy ensures the sustainability of the organization with a huge profit. Ideal strategy always ensures winning in an organizational problem with least or zero effort. The ideal strategy is suitable for hypothetical situations to conform winning but cannot be implemented for real situations. But we can realize the consequences of ideal strategy in practice by means of the new strategy named White Ocean Mixed (WOM) strategy, which is an optimum mixture of all existing strategies like red ocean strategy, blue ocean strategy, green ocean strategy, black ocean strategy and white ocean strategies. Even though the characteristics of ideal strategy cannot be implemented in reality, to develop an optimum strategy which will ensure the organizational success, one has to identify characteristics of ideal strategy. The important characteristics of ideal strategy which will give idea to identify optimum strategy to the organizational problems are given below:

- ✓ The strategy should be independent of types of business and type of problems.

- ✓ The strategy should identify ideal solutions to organizational problems and fulfil organizational objectives.
- ✓ The ideal strategy provides solutions to all problems the organization is facing and gives expected output whatever may be the constraints of the business system.
- ✓ Flexible to accommodate internal and environmental changes.
- ✓ Success through ideal strategy is measurable.
- ✓ Ideal strategy will not consume any resources while implementing.
- ✓ Ideal strategy is easy to implement and supports to fulfil the objectives at zero cost and zero time without any constraints.
- ✓ Ideal strategy includes competitive strategy, monopoly strategy, sustainable strategy and survival strategy to win the organizational challenges.
- ✓ Ideal strategy translates organizational business into ideal business.
- ✓ Ideal strategy guarantees the organizational success in any kind of internal and external environments.

An optimum strategy is the best strategy within organizational or business constraints to fulfil the objectives of an organization. Optimum strategies of an organization can realizable and results can be tested. Optimum strategy in an organization or in a business model supports how to face competition, how to develop monopoly products and services, how to maintain an environment for sustainability, how to manage turbulent situations for survival, and how to get long term profit for changes in internal and external environments. By mixing various corporate strategies like red ocean competitive strategy [35], blue ocean monopoly strategy [36], green ocean sustainable strategy [37], and black ocean survival strategy [38-40], one can develop white ocean optimum strategy [8] with the intention to use ideal strategy for a given situation.

9. Ideal Software:

The Quality factors of software can be determined using their input characteristics, operational characteristics, transition characteristics, revision characteristics and output characteristics. These characteristics are obvious and essential features expected from any project during development and implementation. The prominent eight input characteristics are (1) Zero input resources, (2) Infinite selectivity, (3) Ubiquitous input acceptance, (4) Infinite input security, (5) Infinite reliability, (6) Infinite usability, (7) Infinite efficiency in data acceptance, and (8) Zero energy consumption at input.

System characteristics include operational characteristics, transitional characteristics and maintenance characteristics. The ten prominent operational characteristics are (1) Zero budget, (2) Full correctness, (3) Easy usability, (4) Perfect integrity, (5) 100% reliability, (6) 100% efficiency, (7) Infinite tolerance to security threats, (8) 100% safety against hazards, (9) Infinite functionality, (10) Perfect Robustness. The importance of any of these factors varies from application to application. In systems where human life is at stake, integrity and reliability factors must be given prime importance. In any business, related application usability and maintainability are key factors to be considered. Always remember in Software Engineering, quality of software is everything, therefore try to deliver a product which has all these characteristics and qualities. The four most prominent transaction characteristics of an ideal software are (1) Perfect interoperability, (2) 100% reusability, (3) perfect portability, and (4) 100% performance guarantee. The ten most prominent maintenance characteristics of ideal software are (1) Zero maintenance cost, (2) Perfect flexibility, (3) Perfect generality, (4) Infinite extensibility, (5) Infinite scalability, (6) Easy testability, (7) Highest modularity, (8) Best readability, (9) Easy documentation for anybody use, (10) Infinite tenant efficiency, and (11) Easy reconfigurability.

The prominent eight output characteristics are (1) 100% accuracy, (2) Perfectly correct output, (3) Perfectly reliable output, (4) Long-term sustainability, (5) Infinitely reusability, (6) 100% output efficiency at very low input, (7) Readability to everyone, and (8) Perfect satisfied user experience. The most prominent external characteristics are (1) Inelastic demand, (2) Infinite market for ideal software, (3) Infinite ability, (4) Cannot be copied by others/competitors, and (5) High-quality service to every user [12, 41].

10. Future Ideal Systems:

Various systems which are useful in practice to human beings for improving comfortability can be also discussed based on ideal system characteristics. Some of such hypothetical systems which can have ideal characteristics are:

- ✓ Ideal Automobile – with characteristics like low procurement cost, zero maintenance cost, easy operation, zero energy consumption etc. which can be achieved using advent in nanotechnology.
- ✓ Ideal Library– with characteristics like ubiquitous access of information from any corner of the world with no cost by anybody can be achieved using concepts like universal resource centre [11].
- ✓ Ideal Human Beings– with characteristics like honesty, integrity, courage, self-awareness, wholeheartedness, scientific thinking, openness etc.
- ✓ Ideal Home – with features for good air and light circulation, independency in energy & water, enough storage space, temperature control facility, low maintenance interiors, and exteriors, healthy environment etc.

- ✓ Ideal Organization – with characteristics like total automation, the opportunity for its employees to work from home [42-44], online ubiquitous services, stakeholder satisfaction, customer delightment etc.
- ✓ Ideal City – with all neat, wide, and clean roads, systematically designed infrastructure and facilities, educated, responsible, and disciplined citizens, independency in all life leading resources, clean potable water, nutritious food, education to everybody, systematically planned sanitary, renewable energy & total health & fitness facilities, every other facility to keep its citizen happy & comfortable.
- ✓ Ideal World – without any differentiation between human beings based on gender, religion, race, cast, and age. The ideal world can have one currency, one judiciary system, one military, one common language, and one social system. It is the world with nutritious food, enough potable drinking water, ambient temperature, clean air, renewable energy, shelter, employment, and health for everybody with the comportable living environment.

11. Conclusion:

Even though ideal systems are hypothetical systems, which cannot be realized completely in practice, gives a broad idea on how the practical systems can be improved continuously to reach ideal system characteristics. The ideal system characteristics of technology, business, education, banking, electrical energy, software, computing and strategy, discussed in this review, under input characteristics, system characteristics, output characteristics, and external characteristics shows an opportunity to the scientists and engineers to develop such practical systems further with an objective to reach the goal. Based on the review, we have also discussed the possible characteristics of some of the future anticipated systems like ideal automobiles, ideal library, ideal home, ideal human being, ideal organization, ideal city, and even, ideal world.

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