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Article

The Influence of Destructive Technology Innovations on Contemporary Architectural Production

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Abstract: Destructive technology creates growth in entirely new industries by introducing products and services that are more convenient and economically efficient. Destructive technology often engages the workforce by allowing technological development of individuals to become competitive in the industrial labor market. It introduces a revolutionary change in the conduct of industrial processes. The importance of finding a scientific base to employ the innovation of destructive technology in architecture has started through the adoption of the mining mechanism in the industry with its equivalent concept of impact in architecture as a strategy in innovation and not be the end of the process of architectural innovation through its ability to continue and shorten time. The comparison between three types of the materials used in the architectural production of building with materials (bricks, blocks, and quick concrete walls) is through finding an equation or model that depends on the following indicators: efficiency, effectiveness, adaptation, and continuity of these materials in the architectural production according to the time periods of production. The present study aims to adopt Mining strategy in discovering concrete walls as a disruptive technological innovation for both of the previous two types.

Keywords: destructive technology, innovation, mining, influence, performance, spirit of the age.

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1. Introduction

The rapid evolution of technology has significantly influenced various industries, with architecture being no exception. Destructive technology, often referred to as disruptive technology, plays a pivotal role in transforming traditional architectural practices by introducing innovative methods that enhance efficiency, effectiveness, and adaptability. Unlike conventional technological advancements that improve existing systems incrementally, destructive technology fosters revolutionary changes that redefine architectural production processes. This study aims to explore the impact of destructive technology innovations on contemporary architectural production, focusing on how these advancements contribute to the development of new materials, construction techniques, and design paradigms. By examining the mining strategy as a conceptual framework, this research investigates the potential of destructive technology to create architectural models that not only reflect the spirit of the age but also optimize performance through reduced production times and enhanced sustainability. The integration of efficiency, continuity, and adaptation within architectural practices underscores the transformative potential of destructive technology, positioning it as a critical factor in shaping the future of the built environment.

2. Materials and Methods

The Problem Statement

The problem statement of the present study can be stated through the following questions:

1. What is the difference between development in technology and innovations in destructive technology?
2. What is the ability and mechanisms of destructive technology to develop contemporary architecture?
3. Does increasing the performance of destructive technology have the ability to reduce production time in the contemporary architecture industry?
4. Is it possible to approach the mining mechanism in the industry as a strategy for destructive technology in architecture?

The research hypothesis

The main hypothesis is that destructive technology is a performance ability that is more appropriate for contemporary architecture in achieving new innovative technologies in a shorter period of time.

The secondary hypothesis is that when standardizing the mining feature with its approach to the concept of impact as part of the performance of architecture within the innovations of destructive technology, it gives a model for architecture that is more appropriate to express the spirit of the era.

The research Variables

The dependent variable is that mining strategy in technology, which represents the discovery of an architectural product with shape or body and function or need is innovative and has no industrial origins in architecture.

The independent variable is that performance indicators of architectural production within the innovations of destructive technology are efficiency, effectiveness, continuity, adaptation, and ability to shorten time.

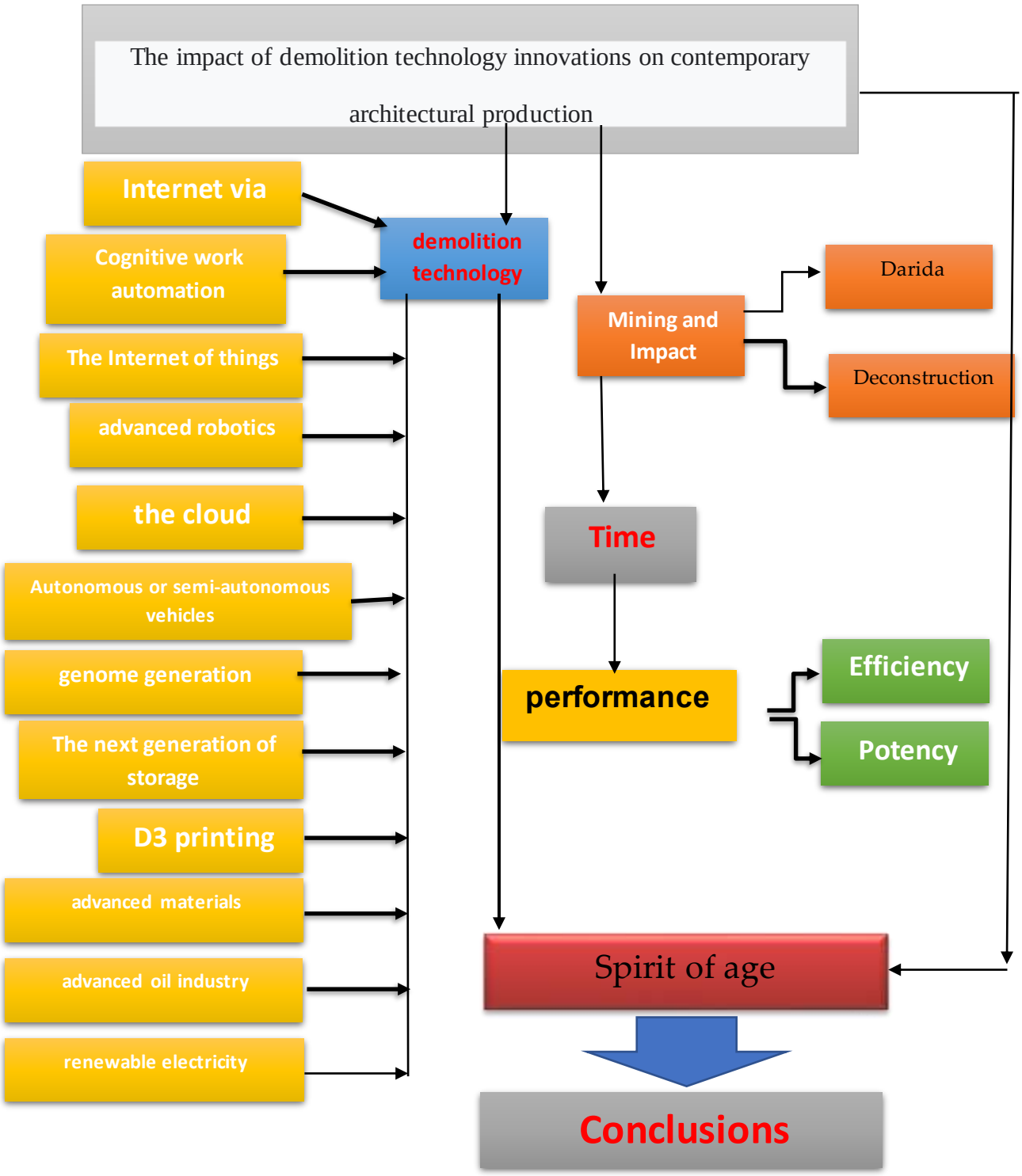
Mining = T, Efficiency = K, Effectiveness = P, Continuity = X, Adaptation = TK, and Time = N.

That is, the greater the efficiency, effectiveness, continuity and adaptation, the greater the mining strategy in the destructive technology architecture, and the greater the value of the mining strategy in the destructive technology architecture, the less the time.

Objectives of the present study

Theoretically, it is possible to define, contain, and direct the change of destructive technology by identifying its performance in shortening the time in the architecture industry. So, it can catch up with the change.

Practically, it provides a measurement method to identify a new relationship and feature of mining in architecture to identify technical disciplines that are candidates to be products of destructive technology in architecture.



Research workflow diagram Source: researcher

Chart (1)

What is destructive technology?

According to Clayton Christensen, a Harvard Business School professor, disruptive technology is an emerging new technology that unexpectedly displaces a fixed job. Christensen used this term for the first time in his 1997 bestselling book (The Innovator's

Dilemma). In this book, reference is made to two categories of new technologies: sufficiency and destruction .(1)

Why was it called destructive or disruptive?

Supporting technologies correspond to known technologies that are subject to successive improvements. On the other hand, disruptive technologies mean new technologies that still lack refinement and development. Such new technologies often suffer from performance problems, which are known only to a specific audience, and may not yet have proven practical.

Some imbalance can be seen in different angles of this technology. So, it may mean that technology which radically alters or destroys the structure of society. Disruptive technologies can change our lifestyle, work, business, and global economy.

Figure (1)

What are these technologies And what good will it bring to the world in which we live?

3. Results

According to a report published by the McKinsey Global Institute, there are 12 technologies that could produce a major disruption in the near future in our lives. They may transform the economy and our lives completely. The McKinsey Global Institute report also provides quantitative data about what the mentioned technologies are, how they might affect the economy, and what risks or downsides they will accompany. The concepts behind these technologies have been around for a long time.

A list of 12 types of disruptive technologies will be outlined as follows:

1. Mobile Internet

Mobile devices are inexpensive and these devices have proven their ability to bring benefits to a wide range of areas. For example, they can help in treating chronic diseases through remote health monitoring. They can also facilitate the entry of mobile banking platforms that are known to be producing drastic changes already in some countries in Africa such as Uganda.(2)

Diabetes Monitoring through App Manager has made it easier as you can just connect iBGStar - Blood Glucose Meter to contact you via Apple iPhone or iPod, and get your results instantly, anywhere, anytime on this line.

2. Automation of cognitive work

There are smarter software systems that can perform knowledge work tasks. In an interview with McKinsey, Eric Schmidt, the CEO of Google, stated that there are drastic changes in smart systems and software by connecting them with the computer. "So, I think we're going to move to this kind of command-and-control interface where you tell the computer, like a barking dog, to perform a situation where the computer becomes much more than a user's friend". It is a friend in the sense that the computer says, "Well, we know what you care about." And again, you've given permission to do that. And you say,

"Well, maybe you should Do this" or "Maybe you should not." Such clever technologies also raise concerns, and raise the debate about substituting a human by a machine.

3. The Internet of things

The Internet of Things (IoT) is a term coined by Kevin Ashton in 2009 for the uniquely identifiable and virtual representation of the Internet's architecture. All beings in the world can be equipped with tiny identifiers or readable identifiers of the mechanisms of transforming everyday life. These are all interconnected into low-cost sensor networks and actuators to collect, monitor data, make decisions, and improve operations. These devices can be used for example in manufacturing, healthcare, and mining. There can be risks, too, as the connection of billions of smart devices can pose a real security threat.

Figure

Figure (3)

4. Advanced robotics

This is one of the exciting areas. Advanced robotics are increasingly compatible with robotic tools, with enhanced "senses", dexterity and intelligence. They can perform very sensitive one-time tasks. These technologies can bring amazing benefits to society, including robotic surgical systems, robotic prosthetics and "exoskeletons" that restore functions of amputees and the elderly, C-Leg microprocessor are examples of advanced robotics technology.

Figure (4)

5. Cloud

Using computer hardware and software resources to provide services over the Internet, as all know, has developed rapidly.

Graphical information about Cloud and services

Figure (5)

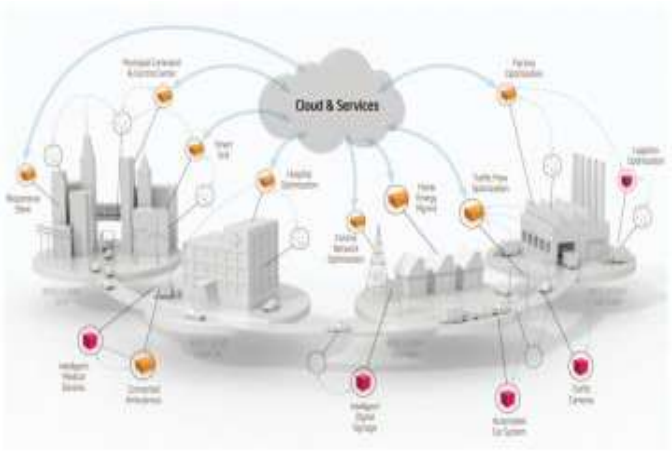


Figure (6)

6. Autonomous or semi-autonomous vehicles

This corresponds to vehicles that can transport and operate autonomously or in many cases semi-autonomously, using advanced managed sensors, and machine-to-machine communication systems. In an article published in Time magazine in 2013, Chris Anderson cites some of the new applications of these advanced robotic devices, speaking of new uses of drones.

7. The Next Generation genome

New developments in genomics combine science and rapid progress. Nucleotides' pairs, units that make up DNA, are used with a better understanding of the genetic structure of humans. This will make it possible to deal with genes and improve diagnosis and health treatments. The next generation of genome that supports knowledge can extend to a better understanding of plants and animals, which can radically improve agriculture. The

biggest destruction is when we do not really know what will happen in the genetics area. The ability to codify personal genetics and ability to start collecting both gene sequences in places that will result in discoveries in cancer treatment.

8. Next generation storage

Power devices are responsible for storage or physical storage systems for later use. These techniques, such as lithium-ion batteries and fuel cells, electric power, and hybrid compounds, along with billions of portable consumer electronics, and energy storage technology over the next decade can make electric cars with competitive cost, bring electricity for remote areas in developing countries, and improve the efficiency of facilities. There are accounts from 40 to 100 percent of vehicles in 2025 can be electrical or hybrid.

9. 3D printing

Manufacturing techniques that produce objects by printing successive layers of material using digital models may become accessible to 3D printers. The use of consumers for D 3 printers can provide a lot of money at the cost of printed product. The customer allows customization of special personality. They can also use tissue bio-printing, direct manufacturing products, tool and mold manufacturing. With a 3 D Printer, one can build the foundation for everything. Another interesting aspect is that new materials can be used in 3D printers. Such materials have all kinds of new characteristics.

Figure(7)

10. Advanced materials

These materials have superior properties as best power for delivery or improved functions such as memory, self-healing, and different benefits for the most common types of industries. The 2015 Chevrolet Colorado was built with light weight techniques.

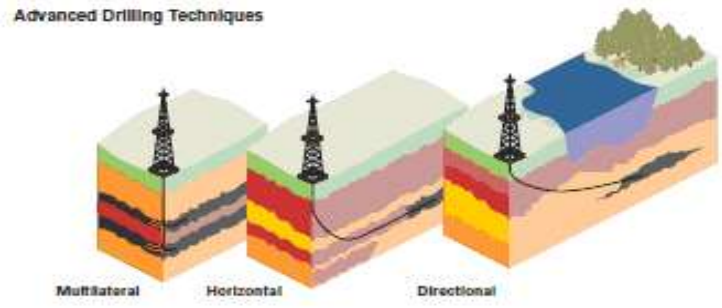
Figure(8)

11. Advanced oil industry and gas exploration

Progress in exploration techniques can extract oil and additional gas.

12. Renewable electricity

This technology leads to the generation of electricity from renewable energy sources, such



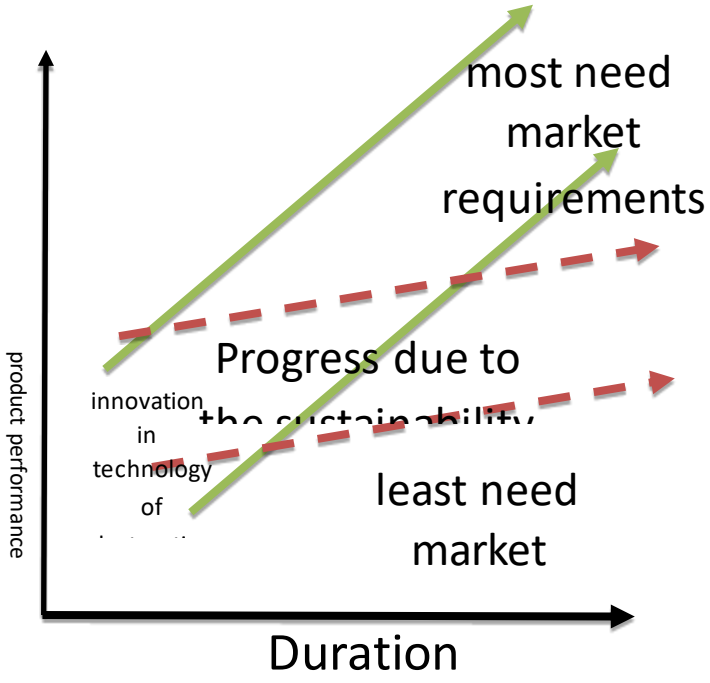
Figure(9)

as the sun and wind, reduction of the effect of harmful climate, and reduction of ingredients such as optical cells, wind turbines, concentrated solar, hydroelectric power, and geothermal energy.

Innovation is the source of future industry because it comes with the new idea that is the new research area. It also comes in the new product, which creates new demand for it.

Diagram of the relationship between time

and performance: researcher



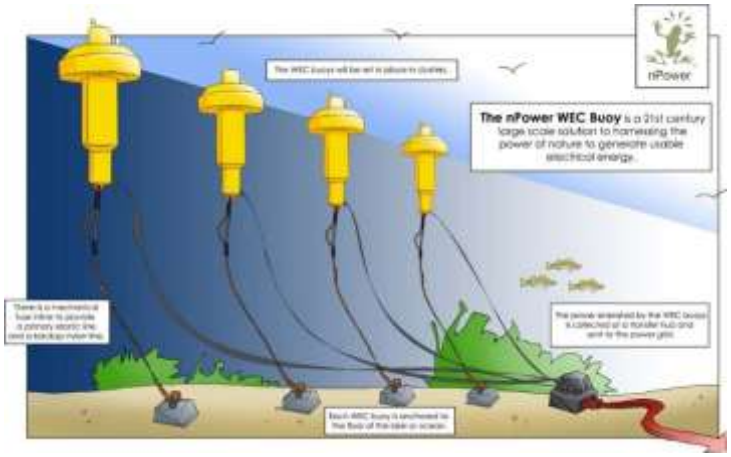
Source: Christensen, The Innovator's))

Moreover, it comes in the new market, which drives the industry and the economy towards a higher level of evolution. Innovation can be defined as the process of creating, developing, acquiring, and implementing the new product, the new service, and the new process with a view to improving efficiency and competitive advantage of adding value to the organization and stakeholders. It can also be defined as the process of establishing

new idea and converting it to new business or creativity. Its implementation and access to the market is the authorization of the new idea that is converted to a value, which is the benefit and saturation of the individual or company level. The new innovation can be a new product or new technology or new service, and in the Internet age, it can be a new business model.(3)

The difference between innovation and invention

Invention is the process of generating good idea. Innovation is the process of converting the idea to a new product, process or new service. Therefore, innovation is priorities for organizations in all areas without exception to survive in the market. Innovation is of great



Figure(10)

importance in achieving the following:

First; Reducing expenses

The innovation of the product, service, or process has a significant influence on reducing expenses, whether by producing smaller productsthat consume smaller units, providing faster services with less work costs, or providing more accurate services.

Second; Increasing productivity

Productivity is the percentage of outputs to inputs. Innovation has a significant influence on increasing outputs by creating a new process or technique, such as the production of more in-time units, or its influence on inputs to reduce damage or using less energy in the product unit.(4)

Third; Improving performance

Innovation improves performance in administrative and service performance. E-marketing, for example, helps improve performance in customer relations management and build customer databases to provide the best services. It also contributes to the achievement of immediate interaction with customers for rapid response to their needs in a better manner.

Fourth; Finding new products

Today's innovation is faster than ever. Most modern organizations have ongoing improvement programs for products and innovation of their new customers.

Fifth; Creating new markets

Rotational innovation for products, services or new operations is today's way to make new business and markets. This is to all specialized amounts to access these products and services that make their new markets.(5)

Sixth; Creating New jobs

New innovations contribute to the establishment of companies, production lines, and service that require, manage, and maintain them. These are all new jobs that activate the national economy in each country. The principles of innovation are necessary to point out that these principles made by Morris are not an actual guarantee of innovation or success in each system in any environment, but are a map to guide efforts Warranty for the use of

capacities, resources, and lessons learned to improve and organize innovation management and improve its success. These principles include:

First; Essential innovation for survival

It is a strategic activity that is not separated from the development and implementation of the company's strategy.

Second; There are four types of innovation: progressive, radical products and techniques, new business models, and leading projects. Each type requires a set of appropriate operations, tools, and jobs.

Third; The worst expectation

Waiting for starting the innovative process, the organizations that proclaimed in the start of innovation usually pay a high price and lose market share and profits. The competition is not waiting and you should not wait too. Put a plan.

Fourth; Innovation is a social and environmental art associated with the interact of individuals with each other. Individuals are the essence of innovation. Their interaction and interests generate new ideas that can be converted into new value.

Fifth; Unplanned innovation is just a luck game

Random efforts make innovation a great risk. Sound planning makes innovation a sustainable growth.

Sixth; All four strategic innovations are necessary and important for success

Planned innovation requires the recruitment of the four entrances: from the top of the job pyramid to the bottom of the job pyramid, from the bottom of the job pyramid to the top of the job pyramid, from outside to inside the institution, and the counterpart to counterpart principle.(6)

Seventh; Great innovations begin with great ideas

It should also be found to have different types and many needs. One of the most important needs for those innovators is that need which is not recognized. It provides the possibility of creativity of amazing developments that add great value and competitive advantage. So, how can it be found? There are thousands of means of new ideas.

Eighth; Effective innovation requires very accurate targeting

Innovation is coasty in terms of money and time. The good targeting enables to use resources wisely.

Ninth; Primary models must be quickly put to accelerate learning

The goal of any innovation process is to extract the best ideas and put them on the market as soon as possible. So, innovation is a learning process. Fast learning has great advantages. The acceleration converts preliminary models into great value, which leads to high effectiveness in enriching the learning process and then innovation.

Tenth; There is no innovation without leadership

Corporate stunningly express human society. The employment of thousands of people to innovate products and services around the world and provide for thousands but millions of customers is amazing. But, the ability to achieve this goal raises some new challenges. Innovation theories are not doubtful that innovation has become a wide and diverse area due to these extensive and various accumulations of innovations. As the new innovation has no one shape nor one style of formation and development, the interpretation and description is usually through multiple models or theories that can include their different situations. There are three theories about innovation as follows:

The superior model or beyond the material transcendental Model which is based on that innovation depends on a special pattern of individuals who are genius innovators. Therefore, According to this model, there are little numbers of individuals in the company who are innovators offering the largest percentage of new and innovative ideas.(7)

The automated model

This theory is based on that innovation can appear more easily when there is a problem that faces the company or individuals. There is no doubt that this theory is based on the existence of the problem or incident of the country (Triggering Event), which pushes

individuals to direct their own efforts to innovate this problem. This model can explain a lot of innovations, which confirms the assumption that these innovations have been produced to confront the problems facing individuals and companies. Bridges were not built but to help pass the river bank to the other side, skyscrapers were not built but to face land shortages in city centers and their high prices, and elevators have not been made but to face the need to go to the higher floors.

The cumulative installation model

This theory is based on the efforts of thinking, analysis, interdependence, and verification in order to reach ideas, and then to new products or services. These explain many improvements to current products through the new combination that adds a new component or a new feature to reveal an insolvency and structured frame to reach the new combination.

Architecture deals with the cumulative model as a time art.

The conventional definition of the concept of performance

It is of great importance in the management of institutions. There is still growing attention from researchers, thinkers, and practitioners in the field of management. Performance is characterized by a widely developed concept. Its contents are dynamic due to changing and evolving the positions and circumstances of institutions because of the change in conditions and factors in both external and internal environment. On the other hand, this dynamicity has contributed to the lack of agreement between the book and security in the field of conduct for induction content for the concept of performance despite the frequent research and studies that addressed this concept. This is due to the different standards adopted in studying performance, measurement, and stagnant by each writer or a range of writers.(8)

The concept of performance refers to that act leading to the achievement of business and should be completed, which is characterized by that it is comprehensive and continuous. Therefore, it means the specific factor of success and survival of the institution in its target markets. At the same time, it reflects the extent of the institution's ability to adapt to its environment, or its failure to achieve the desired adaptation. It should also be noted that the concept of performance is associated with two important terms in the maintenance, efficiency and effectiveness.

What are the dimensions of performance?

The Regulatory dimension of performance

Organizational performance involves methods that are adopted by the institution in its organizational plan. This measurement should directly be related to organizational structure and not with the expected results of socio-economic nature, which means that the Foundation can reach another effective level of social and economic standards differing from that for organizational effectiveness. So, it is concluded that these standards adopted in the measurement of organizational effectiveness play an important role in the performance evaluation. The institution is allowed to recognize the regulatory difficulties at the time of their first manifestations before they are recognized through their economic impacts.(9)

The social dimension

The social dimension of performance is related to the satisfaction to be achieved among the institution’s staff, despite their different levels because the level of user satisfaction is an indicator of individuals’ loyalty for their institution. The importance and role of this aspect are in fact that the overall performance of the institution may be negatively affected if the institution limits its activities to the economic aspect and neglects the social aspect. It is therefore recommended to give importance to the social climate prevailing within the institution, such as conflicts, crises, etc..

Components of Performance

The term performance involves two major components, effectiveness and efficiency. This means that the institution which is characterized by performance is that institution which combines effectiveness and efficiency in its management.

Effectiveness

Researchers define it as an instrument of monitoring. On the other hand, this is the case in the management of any institution. However, there are many different contributions that tried to identify what this term indicates. Classic thinkers considered effectiveness to be the achieved profits, which are then measured, according to their consideration, by the amount of achieved profits.

$$\text{The value of actual effective outputs} = \frac{\text{The value of expected outputs}}{\text{The value of expected outputs}} \times 100$$

Efficiency

Like most of the terms of human and social sciences, it is not surprising to find disagreement among writers and researchers on the definition of the term efficiency. Therefore, it is not surprising to find an overlap between this term and other commercial, human, or social terms, such as productivity, perfectiveness, or income. This term indicates obtaining much in return of less, which means keeping the cost within its minimum limits and profits within their maximum limits, which is limited to the use of available productivity resources, which is primarily associated with the cost and the relationship between the input and output.

Now, what is architectural efficiency?

Mining

It is the process of extracting precious and geological minerals from inside the earth. They are usually, not always, extracted from a raw body or a coal crack. The materials obtained include Bauxite, coal, cupper, gold, silver, diamond, iron, precious metallurgies, lead, broom, nickel, phosphates, oil shale, rock salt, uranium, and molybdenum. They also involve those materials that cannot be agriculturally or industrially obtained. So, in the general sense, mining means the extraction of any wealth, such as oil, natural gas, or even water.(10)

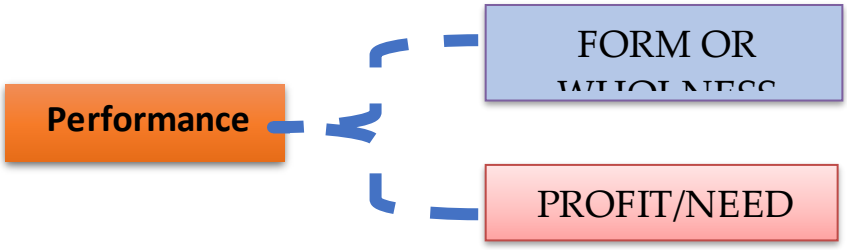
Minerals are natural elements in the crust of the earth that form rocks. There are about 3,500 types of minerals. They are formed with beautiful crystals. Gems and salts, such as gold and outdoor minerals.

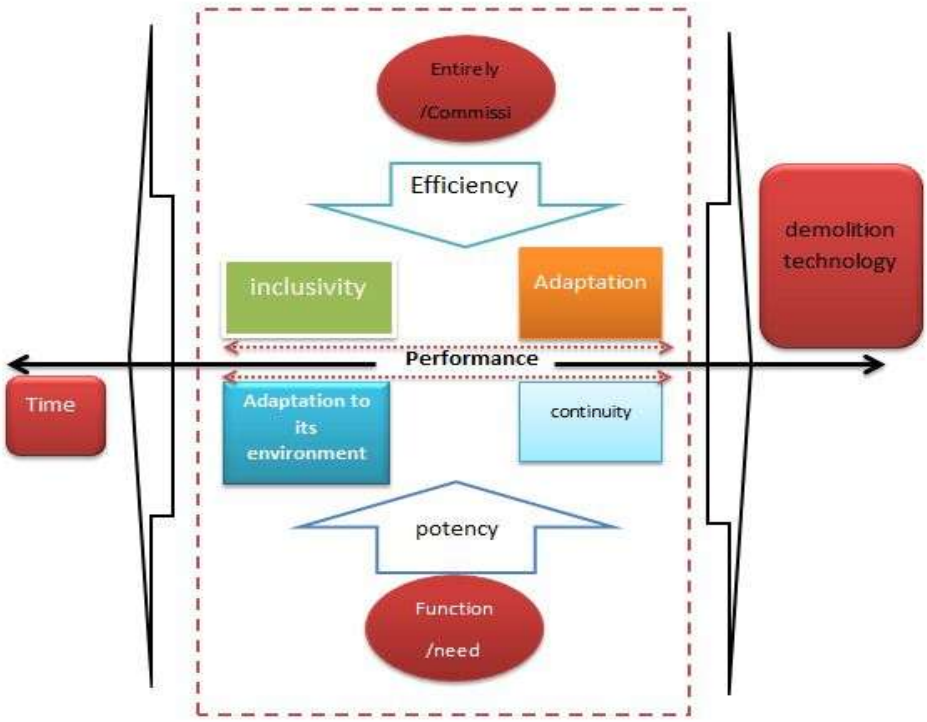
Geologists identify the type of minerals by studying some of their characteristics such as color, shape, and hardness.

Mining types

1. Ancient mixtures

Bronze is a mixture of metallic tin and copper. It is a solid material and it has a great durability. This vessel was made in China in almost 3000 BC.





The figure clarifies that with the increase in the efficiency of architectural destructive technology, the efficiency of the architectural product increases in both levels of shape and function. Source: The researcher.

Chart (3)

2. Roman metal

Romans used lead for water pipes as it is easily foldable. They heated the raw material in order to extract the pure metal.

3. Colors in the Renaissance Era

During the Renaissance era, painters mixed bright color minerals to make painting oils from them.

4. Writing Materials

When writing by pencil, the black material in the pencils is known as graphite.

It is concluded that mining is an output that is dependent on the effect of the elements.

The concept of impact in Jack Drida's decomposition

There is no doubt that the text is a fabric of effects that infinitely refer to other things than themselves. They refer to effects of other differences. This is asserted by the differential nature of language as proposed by Derrida. These differences occur among elements, produce them, or make them emerge as being so. They also form texts, chains, and systems

of effects. These strings and these systems can only determine their meanings in this impact or fingerprint." Therefore, the Durrida's concept of impact is closely related to the concepts of difference, writing, and presence. So, difference cannot be thought of without the impact because the pure impact is the same. In this context, Derrida states that the effect opens the appearance and significance. It connects the alive with the dead in general. It is an origin for every repetition. It is the ideal origin, but it is not more ideal than it is real. It is not more reasonable than it is sensible. It is not a transparent indication than it is a dimmed energy that no metaphysical concept can describe.

Despite the dimmed nature of this magical concept on which the idea of difference can be based, it can be said that it is a prerequisite for any further element of meaning. It has the ability to proceed any metaphysical frame.

It is concluded that mining can be the impact of architecture to reach a contemporary product of destructive technology in architecture.

The spirit of the era.

Haykel states that the spirit of the era is believed to be the power that always pushes the community forward, leaving its effects on ideas and choices. However, his views contradict with the views of other groups in two aspects:

1. He believes that inspiring is the spirit of the era, or the spirit of community. They believe that inspiring comes from Lord. They also believe that inspiring comes from beyond nature.
2. They believe that inspiring is absolute and steady. He believes that inspiring is changeable and relative.

Anyhow, this is intellectually present in Europe. There is also another matter of the European concept of the spirit of the era. It can be expressed in the following questions:

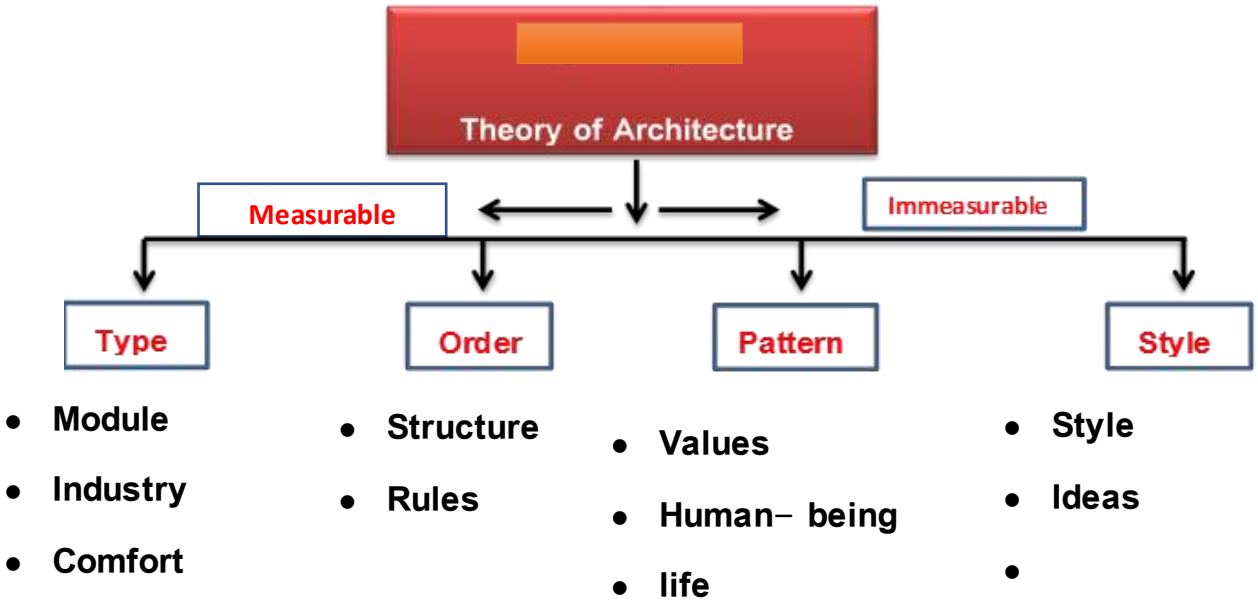
Do ideas change at once with the end of the century, for example, or is gradually changing?

Are vanguards inspired before others?

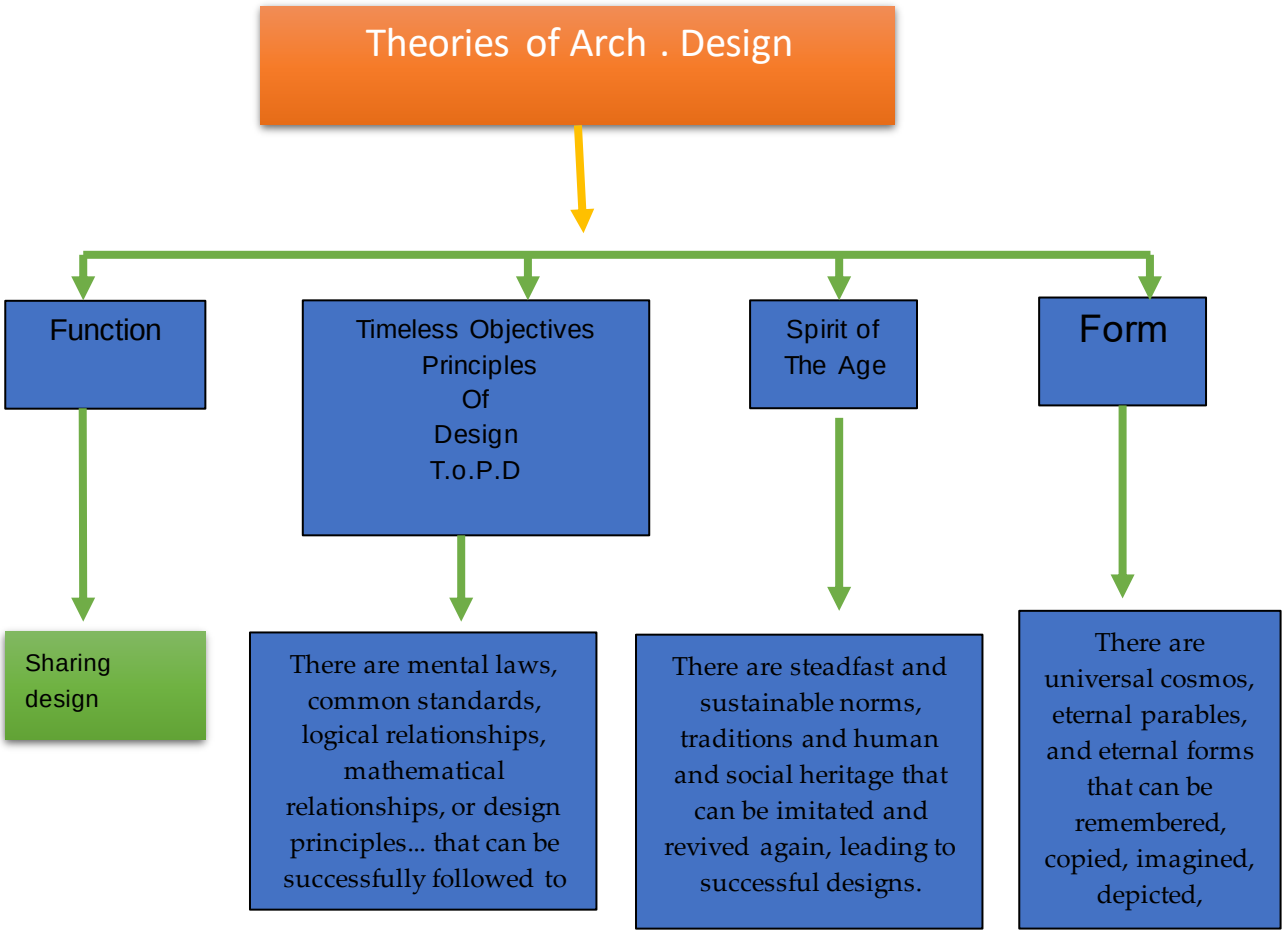
Is there always a renovated lifestyle, which has the rule of prophets?

Hence, Marx gave social awareness a great deal of interest. He linked the man's ability to make history with the amount of realizing the spirit of the era, accepting its criteria, understanding its conditions and requirements, and benefitting from the available opportunities. He was interested in awareness to the extent that he called for creating an intellectual conflict against each political conflict. More than that, he prioritized intellectual conflict as it enhances public awareness and decreases the authority of corrupted politicians.(11)

Where can the spirit of the era be found between theory and application?



Chart(4)



Quadrilateral architectural designing / chart (5)

It is concluded that attempting to obtain the concept of mining in architecture and approaching it with the idea of the spirit of the era is to give architecture a more appropriate reflection through the integration of two models, which is the way for integration between mental laws, joint standards, logical relations, mathematical relations, or design principles to produce successful designs, which is the destructive technology to serve humanity with high performativity and less time. It is possible to obtain mining in architecture through the indicators of efficiency, effectiveness, continuity, and adaptation within time.

The attempt is to apply the destructive technology on three constructive techniques operating within the concept of weights holding wall, but with variance in performance and quality, within a less time period, within the limits of the report, building with bricks, blocks, or concrete.

Bricks

It is a construction material made up of burned clay in special ovens. It is then manually arranged. It is traditionally made up of clay. But, recently, it is made up of concrete. The ratio of mixing clay with sand is 25-30% to decrease deflation. After that, it is made as powder, mixed with appropriate ratios of water, and put in ovens with a temperature of 1000C in order to obtain the required hardness. It is possible to get bricks with special characteristics by adding other materials like cement or chemical materials. It is also possible to obtain special characteristics by changing the temperature. These characteristics range from changing color to weight and heat durability, such as the bricks with which the ovens are built. Other characteristics include humidity absorption and heat installation.(12)

Construction method

Using bricks in construction is considered the easiest construction method. Bricks are lighter in weight than stones. Thus, it is easier to use bricks in forming many structures. Bricks are arranged all along the wall to be built and then, they are covered with cement. Linking methods

There are many linking methods. The most known method is the longitudinal linking in which bricks are arranged longitudinally. The thickness of the wall is equal to the thickness of the brick. In the second row, a half brick is placed above the beneath brick to form the linking area between the two bricks. The third row is arranged like the first and the fourth like the second.

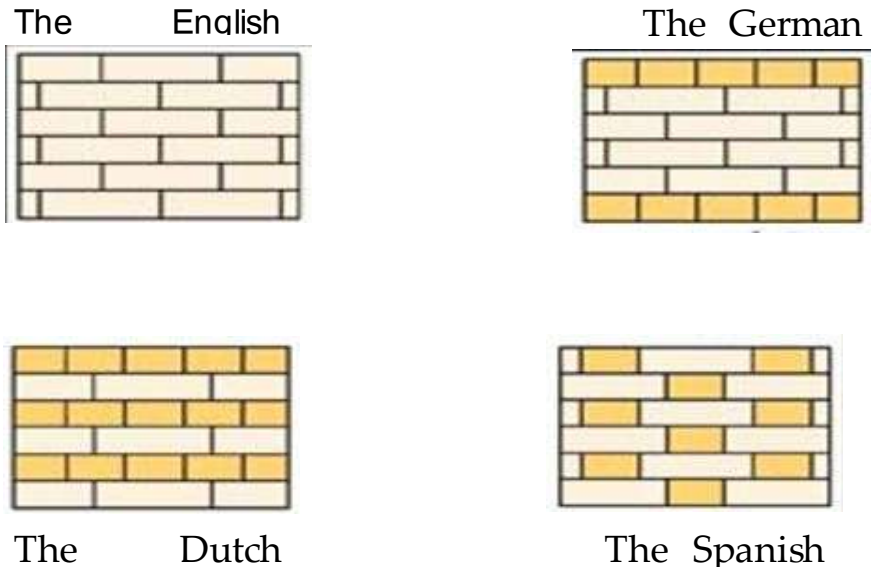
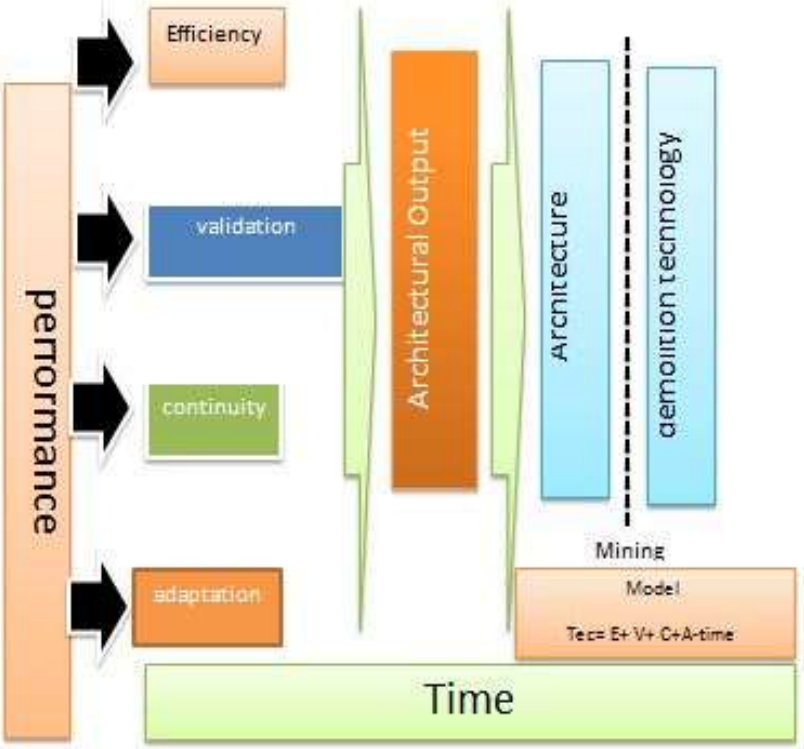


Figure (11)



Source: The researcher / Chart (6)

1. Concrete block

It is made up of sand, cement, and stones. It is somehow heavy due to the heaviness of its materials. There are three types available:

Solid block

This type of block does not contain internal gaps, except two circular halls with an area of **10cm**. It was used in order to build holding walls as its resistance is not less than **70kg/cm³. But, it has become very rarely used for the following reasons:**

1. Its heavy weight.
2. Its high cost.
3. Humidity installation as it reserves internal humidity for long times.
4. The difficulty of installing electric and drainage pipes through it.

Its sizes are **20 × 20 × 40cm and 15 × 20 × 40 cm.**

2. **Hollow block**

It contains halls and cracks that are industrially formed. It is divided into two types:

A. Light **hollow block**

It is relatively light due to the way of mixing its materials. It is used in limited cases due to its high cost. It is used in the following cases:

1. Failure of any of the materials constituting any institution in tests.
2. Adding weights without prior consideration in the design stage.

The presence of large areas in the roof.

B. Normal hollow block

It is divided into various types according to its dimensions as follows:

T block is called so according to its dimensions and uses.

Block 20 is used for building external walls or architectural aspects.

Block 15 is used for building external and internal walls.

Block 12 is used in internal decoration.

Requirements of using block:

1. Coal and mud free.
2. Color unity.
3. Dimensions regularity.
4. Water non-absorbability.
5. Durability test.

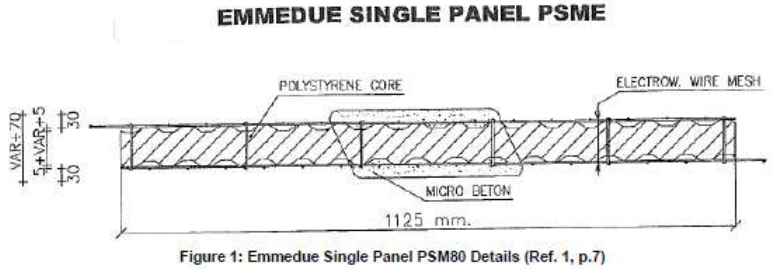


Figure 1: Emmedue Single Panel PSM80 Details (Ref. 1, p.7)

Figure (13)

6. It must be dry.

1. Fast performed walls

System characteristics

1. High flexibility and variation enable the system to contain the designs of

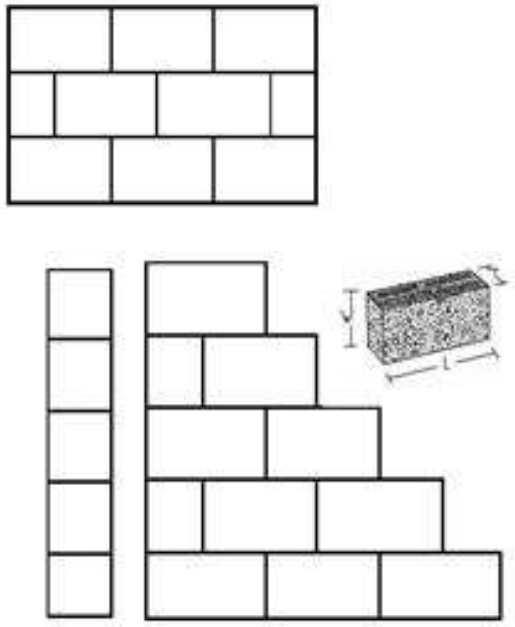


Figure (12)

architectural engineering.

2. High resistance for heat, humidity, and sound.
3. Ease of moving and collecting.
4. Little need for instruments when performing projects.
5. High solidity and resistance for earthquakes and complex weather.
6. Perform ability without needing for skillful workforce.
7. Loew performance and installation costs in comparison with traditional systems.
8. The ability to be blended with other traditional systems.
9. Ease of using it for air-conditioning and lightening services.

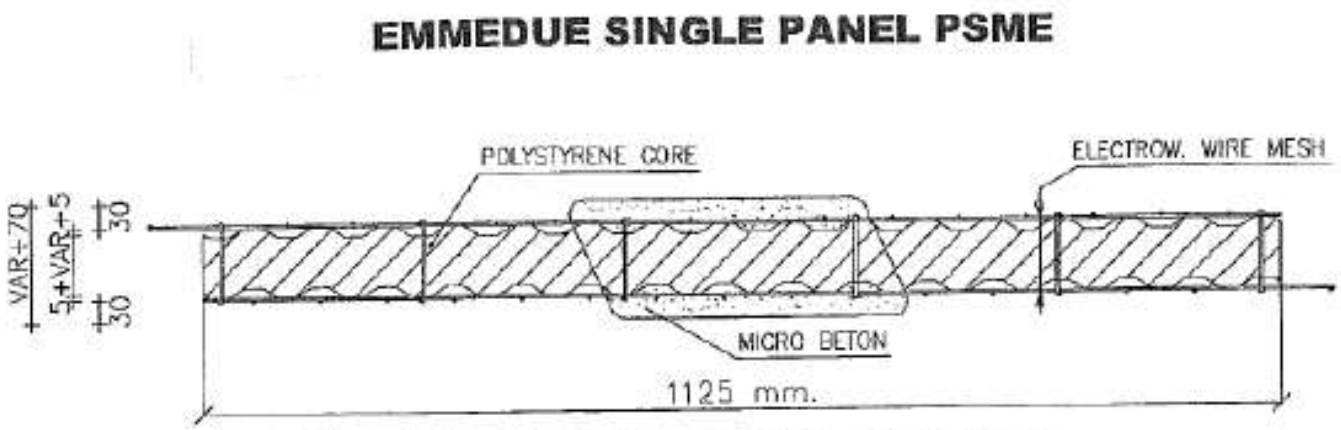


Figure 1: Emmedue Single Panel PSM80 Details (Ref. 1, p.7)


Figures 4 and 5: Mortar mixing and spraying application on wall assemblies, respectively

Figure 6: Smoothing out mortar after spraying

Figure (15)

Diagram showing the relationship between the three technological techniques (bricks, blocks, concrete walls) according to the concept of destructive technology / researcher

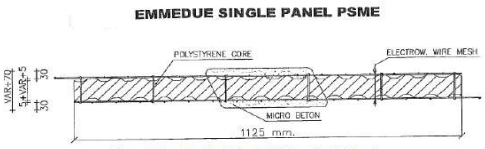


Figure 1: Emmedue Single Panel PSM80 Details (Ref. 1, p.7)


Figure 2: Finished wood frames with 4' x 8' panels ready for spray mortar application

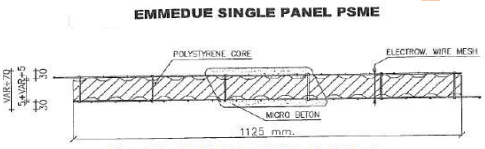


Figure 1: Emmedue Single Panel PSM80 Details (Ref. 1, p.7)

Figure 3: Lumber support frame (1x10 cut down to exactly 6" wide)

Figure (14)

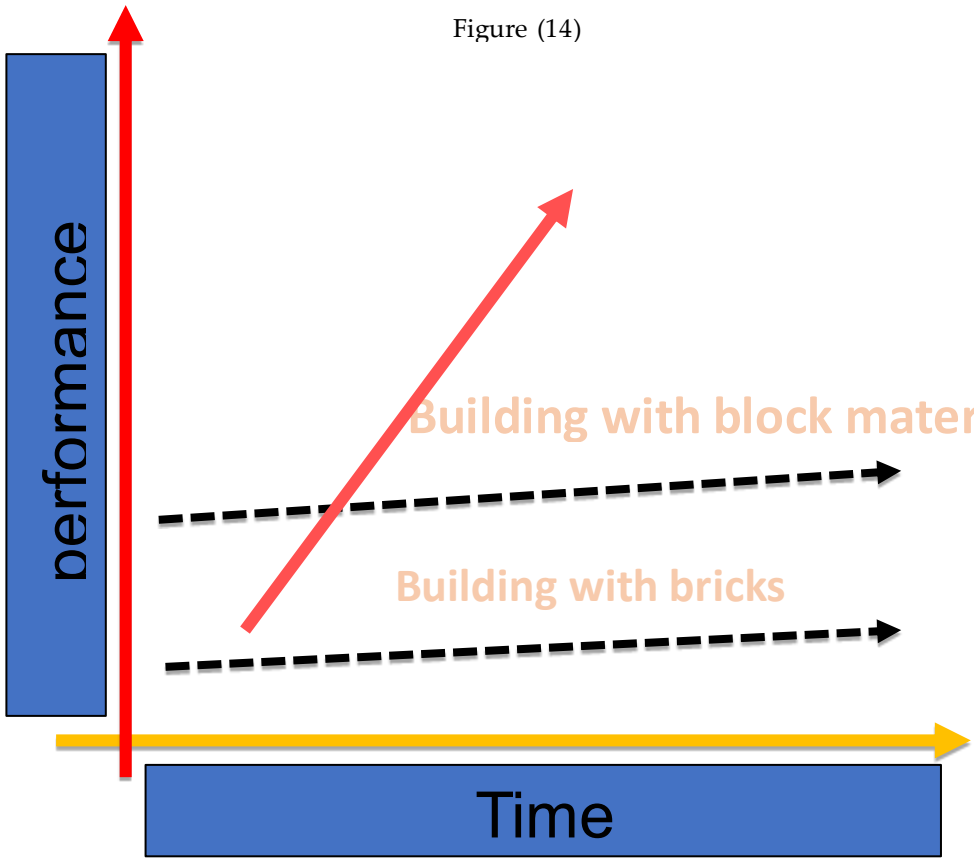


chart (7)

4. Discussion

The study explores the transformative role of destructive technology innovations in contemporary architectural production, emphasizing their capacity to enhance efficiency, effectiveness, continuity, and adaptability while significantly reducing production time. The findings underscore that destructive technologies, such as advanced robotics, 3D

printing, and the Internet of Things (IoT), are not merely supplementary tools but pivotal elements that redefine architectural processes and outputs.

One of the critical insights from the study is the application of the mining strategy as a metaphor and methodology in architecture. This strategy, typically associated with the extraction of valuable resources, symbolizes the uncovering of new architectural potentials through technological advancements. When applied to materials like bricks, blocks, and quick concrete walls, the mining strategy illustrates how disruptive innovations can optimize material performance, leading to more sustainable and time-efficient construction practices.

Moreover, the study highlights the dual nature of destructive technologies in architecture. While they offer unprecedented opportunities for innovation, they also challenge traditional architectural paradigms. The shift from conventional methods to technology-driven approaches necessitates a reevaluation of architectural principles, particularly concerning design aesthetics, structural integrity, and environmental impact.

The concept of the "spirit of the era" emerges as a central theme, suggesting that architecture must evolve in tandem with technological progress to remain relevant. This alignment with contemporary technological trends ensures that architectural practices not only meet current demands but also anticipate future needs. The integration of mental laws, joint standards, logical relations, and mathematical principles with disruptive technologies fosters designs that are both innovative and reflective of modern societal values.

Furthermore, the study acknowledges the potential risks associated with the rapid adoption of destructive technologies, such as dependency on technology, loss of traditional craftsmanship, and ethical considerations related to automation and artificial intelligence. Therefore, a balanced approach that combines technological advancements with sustainable architectural practices is essential.

In conclusion, the research demonstrates that destructive technology innovations are integral to the evolution of contemporary architecture. Their ability to enhance performance metrics while resonating with the "spirit of the era" positions them as catalysts for architectural transformation, paving the way for more efficient, adaptable, and forward-thinking design solutions.

5. Conclusion

1. It is possible to approach the concept of mining in industry to the concept of effect in architecture.
2. Architecture is one of contemporary sciences that must be influenced by technology.
3. There are two trends through which technology is made use of. The first trend is to develop the existing modal. The second trend is to create a new modal that illuminates the existing one.
4. As a science that is related to human life, architecture is interested in creating a new modal that provides high performativity in the least possible time.
5. The function of destructive technology in all sciences, particularly architecture, is to provide products of high performativity in the least possible time.
6. Performativity of architectural products highly depends on their efficiency and effectiveness within the architectural system.
7. Destructive technology is architecturally effective when the efficiency and effectiveness of the architectural product increase in terms of shape and function or need.
8. Architecture deals with the cumulative modal of innovation theory as it is a temporal art.

9. Mining may be the effect in architecture to obtain a contemporary product of destructive technology in architecture.
10. Attempting to obtain the concept of mining in architecture and approaching it with the idea of the spirit of the era is to give architecture a more appropriate reflection through the integration of two models, which is the way for integration between mental laws, joint standards, logical relations, mathematical relations, or design principles to produce successful designs, which is the destructive technology to serve humanity with high performativity and less time.
11. It is possible to obtain mining in architecture through the indicators of efficiency, effectiveness, continuity, and adaptation within time.

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