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***Project Sustainability: A Necessary
and Sufficient Condition for Continued
Actualization of the Goals of Niger Delta
Development Commission (NDDC)
Projects in Nigeria***

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Abstract

Niger Delta Development Commission is a Commission established in Nigeria in 2000 by the then Head of State President Olusegun Obasanjo to look into the environmental, socio-economic and development of the Delta Region which is the oil producing region in Nigeria. The commission started the provision of public utility projects in the localities and this made highlighting the need for the sustainability of these projects necessary. In recent time, sustainability has developed greatly and sustainable development now incorporates environmental, economic and social and this is being supported by various political and institutional organizations. Also the issue of social capital and corporate social responsibility has emerged, making sustainability a broader paradigm in the world developmental outlook, and demands not only benefits of projects and programmes but ensuring that they are in line with the ecofriendly and greener future. This is in line with the new concern on global warming, ecosystem, recycling and environmental friendly; all geared towards maintaining and sustaining a habitable and friendly environment. There have been a lot of projects that cease to be relevant few years after completion despite the huge amount of public funds invested. The failures of these projects to live the taste of time may be attributed to some factors bordering on organizational structure, political reasons, financial and technical lapses and inadequate sustainability plan. The problem of most developing countries like Nigeria is not only on

ability to execute developmental projects but financial and technical know-how to sustain it after completion and commissioning. Hence most projects live for short time and collapse few years after the expiration of their “life span”. This study attempts to understand the provisions for sustainability in the NDDC sponsored water, roads and electrification projects in the selected communities of Obowo, Oguta and Ohaji/Egbema in Imo State Nigeria. Questionnaires and oral interviews were conducted in the communities under study and SPSS version 20 applied in running the analysis. The study discovered and concluded that there was no adequate provision for project sustainability in the design and execution of these water, road and electricity projects. The inability of the commission to have effective monitoring and evaluation in their projects also explains why and how there was no proper sustainability arrangement put in place and therefore the researcher suggest that project designers should think of sustainability and even if they cannot articulate a proper sustainable design, they should emphasize it in their final report so that the stakeholders and beneficiaries would consult, design and implement a sustainability programme for these projects so that they would live the taste of time. The paper also suggests involving community participation in projects design, implementation through monitoring and evaluation so as to also ensure adequate community participation in designing sustainability plan. The study also recommends forming an international body through the United Nations on project sustainability, making it mandatory for all countries to adopt and ensure a sustainability plan for projects.

Keyword: Project sustainability, Niger Delta Development Commission, Stakeholders. Communities.

1. Introduction

The construction of projects has been an involvement of different stakeholders; Government, corporate bodies and individuals with huge sum of money invested in these projects to enhance human comfortability and general well-being. Unfortunately some projects which cost lots of human and material resources have only been able to achieve the desired goals within a shorter period of time and later went obsolete as a result of non-sustainability by all involved. Hence there is need to understand the process and importance of sustaining projects so that the benefits from it would continue over time. Defining sustainability may vary depending on the perception of the writer as some look at it from the economic, social, political, environmental or developmental points of view. Sustainability is seen by different people from different perspectives and measuring progress towards this goal is complex and may be subjective. However, the emphasis is on the key accepted parameters of measuring sustainable development and they are environmental, social and economic (Ana Iglesias and Fabrizia Buono 2009). Brundtland Commission of the United Nations defined sustainability by looking at it from developmental angle thus; “Sustainable development is development that meets the needs of the present without compromising the ability of future generations to meet their own needs”. However, (Albert A. Bartlett 2012) argued that this definition focused on the “needs of the present” that has nothing to do with sustainability and should concentrate on the “needs of the future generation”. He therefore rephrased the Brundtland commission definition as follows: “Sustainable development is development that does not compromise the ability of future generations to meet their own needs”.

Commonwealth of Australia (2000) defines sustainability from a development agency perspective as follows: “In the context of donor-funded development programs and projects, sustainability can be defined as: the continuation of benefits after major assistance from a donor has been completed”.

Commonwealth of Australia stated that projects are not “sustainable as they are a defined investment with a start and finish date” and sustainability is an ongoing process which has to be reviewed and updated as circumstances warrants. It is also emphasized that “there is no one single way to achieve sustainability and each individual program or project should define its own sustainability strategy on a case-by-case basis”.

Sustainability is very important in the new trend on globalization and sustenance and it must be noted that construction industries has greater impact on the environment, hence it is not possible to talk of project sustainability without mentioning the construction industry. Also it should be understood that talking about sustainability stimulates one to explain sustainable development as this is an umbrella to all sustainability. Hence Zhang et al (2014) also agrees with the definition of sustainable development as in the Brundtland.

The important role sustainability plays in projects has really necessitated the need for project managers to be well equipped in incorporating it in their project management and according to Silviu et al (2014) project managers are lacking the competences to consider the sustainability aspects of their projects. They considered the pivotal role project managers play in their organization and calls for the need to close the gap between competency of managers and the realization of sustainability objectives in projects and organizations. The International Fund for Agricultural Development (IFAD) Strategic Framework 2007-2010 (IFAD 2007j) defined sustainability to mean “Ensuring that the institutions supported through projects and the benefits realized are maintained and continue after the end of the project ...”.

From all these definitions of sustainability, one can therefore say that project sustainability refers to the construction or development of projects which not only meet the

present needs but also takes care of the needs of the future. From the information gathered during the study, project sustainability has not been effectively articulated in the NDDC projects in the Ohaji/Egbema, Oguta and Obowo communities in Imo State Nigeria, as there is no reasonable evidence to prove such and hence there is need for amendments by the Commission to recommend sustainability procedures in their projects.

“You cannot escape the responsibility of tomorrow by evading it today”

Abraham Lincoln .

2. Review of Literature

Issues on sustainability and project sustainability

Subha Vishnudas et al. (2008) conducted a sustainability analysis on watershed projects in Kerala, South India and concluded that natural resources, technology, institutions and economics respectively play vital roles in sustainability. And in the views of Marcus D. Ingle (2005) benefits of projects have in most cases been programmed to certain duration and that is why we see projects expected to have like 5 years life span. The stakeholders and investors in such projects have not asked themselves what happens to the project after the life span. This is where project sustainability comes in. This is why expected benefits of many project investments had failed to materialize following the completion of a project. Most project sponsors focus on "life-of-project effectiveness" and this considers the specified life span of the project ignoring what happens to the project after the life span has expired. Many development agencies and countries approach development by structuring activities into fixed-term (usually 3 to 5 year) projects.

According to Task Management Guide, “Project Sustainability Plan is a document that describes how the project management is going to respond to certain changes, events, emergencies, or other factors which might challenge the viability and relevance of their projects”. It should be noted that an early and effective sustainability plans can help an organization in obtaining serious investors and gaining community support as the community would always appreciate a sustaining project with benefit extending to their heirs. It has been noted that in some projects, sustainability plans may not be part of the standard project portfolio documents but can be added as after the full details of the project plan has been written so as to inform the investor and stakeholders of the provision for sustainability since such sustaining factors may not be within the control of the project initiators/executors.

Quantitative method was utilized by (Jian Zuo et al 2012) to examine the sustainability policy in 50 international contractors in the construction industry through statement of principles, sustainability reporting incorporated within a financial report, and a stand-alone sustainability reporting system. It is observed that most sustainability policies are connected or stated in the vision statement of companies. They were of the opinion that world’s highly ranked companies tends to disclose their details information and sustainability policy in their reports. The United Nations (UN) - MDG projection to halve 50% of people without basic water services by 2015 to be actualized, one of the major challenges is not just providing the water as one of the infrastructures to serve rural communities, but creating local institutions and policies that would see to the maintenance of those systems and infrastructures over a long term which means sustaining them for successful realization of the goals. (Madrigal-Ballesteros 2012).

However, Marcus D Ingle (2005) explained that sustainability provisions are usually made at the initial stages of project identification and design, when the basic outline is set and

once this is not done at that stage it becomes difficult to actually incorporate sustainability later. It should be noted that as the project cycle involves identifying, planning, and implementing. Sustainability requires an additional development mindset reinforced with some practical management knowledge and practice that determines the profitability sustainability of the project. Marcus D. Ingle (2005) continued that assumed life span of projects is a vital impediment to sustainability as explained by “research has shown that this definition of 'end' is too short-sighted. Projects frequently stop delivering the desired benefits as soon as the money runs out because benchmarks were defined only in terms of effectiveness, neglecting institutional aspects concerning the capacity to sustain the delivery of benefits after donor funding ends.

International Fund for Agricultural Development (IFAD, 2009) viewed sustainability to have different dimensions. Even in the same project, sustainability has different meanings and dimensions as each of the stakeholders views sustainability from the angle that suite his purpose and interest. The communities see sustainability to mean the project would remain viable and rendering the services continually. Which meant whatever they are enjoying in the projects, would also extend to their heirs. And on the part of the project executors or contractors, sustainability implies income generating activities continue and grow; infrastructure is maintained and repaired locally, based on a sense of local ownership; women retain their empowerment after project ends; and institutions continue with their prescribed/expected functions. On the other hand, government sees sustainability to mean “sustained funding and government takeover of the services provided by the project and a continuing flow of capital and credit into rural areas”

Also in categorizing sustainability, International Fund for Agricultural Development (IFAD 2009), in their sustainability of rural development in Asia stated that sustainability can be summarized into three categories as follows: “sustainability of outcomes”, this is to ensure that the benefits of the projects increases and continues beyond the completion stage; “sustainability of process”, ensures that individuals and institutions continue providing appropriate services after the assistance and subsidies of a project end; and “sustainability of resources”, this means that activities promoted or introduced by the project will preserve and keep the natural resources intact.

For physical projects like roads, and buildings, the contractor’s interest is to complete the construction in line with the signed agreement and specifications and then hand over the structure to the owners. The issue of maintenance and sustainability might be the responsibility of the owners and operators/communities or government. This then requires knowing the basic issues and questions a good project sustainability plan should address such as relevance and realism of the project assumptions, margin of sustainability the project has and how it is measured, how the current changes would affects the project viability and relevance, how the project plan and assumptions will be adapted to recent changes including what and how it would be maintained over time and at the long run how sustainability will be secured. This is where the theories and practices of the long run come in as in economics. Sustainability is synonymous with the long run rather than the adhoc situation of the short run and this calls for careful and well-articulated process and plans that would stand the taste of time.

Factors Affecting Project Sustainability

Commonwealth of Australia (2000) enumerated the various key factors affecting sustainability as follows: (i) Partner Government and donor policies (ii) local participation and ownership (iii) management and organization (iv) financial (v) awareness and training (vi) technology (vii) social, gender and culture (viii) environment (ix) external political and

economic factors”. They went further to explain sustainability analysis which is a step forward in the normal risk analysis, and thus defines sustainability analysis as “the identification and analysis of the key factors that are likely to impact, either positively or negatively, on the likelihood of delivering sustainable benefits”.

Also, in assessing factors affecting sustainability, (Alana Rosenberg et al (2008) evaluated the eight of the nine NGO-operated community-based orphans and vulnerable children (OVC) projects in Botswana, Lesotho, Namibia, South Africa, and Swaziland and the evaluations provided evidence of the importance of the government partnership for sustainability. They identified factors associated with sustainability, such as organizational characteristics, donors and NGOs and that there is need for such factors to establish strong partnerships with local and national government agencies for the sustainability of their projects. It is very important that Government should be involved at the community level, state and national levels for project sustainability as some legislations and enforcement of certain rules and policies lies on the powers of the state. Peter et al (2012) considered in the main factors affecting the sustainability of rural water schemes in Swaziland using a Multi-Criteria Analysis Approach, and concluded that these factors are financial, social, technical, environmental and institutional. Ezeokeke et al (2012) emphasized in their empirical study on impact of Fadama project 11 in Imo state Nigeria that the local government should pay their counterpart funding so as to ensure sustainability of the project. In this case the project is being sponsored jointly as the World Bank pay the bulk funding, while Federal government of Nigeria secured the loan and State and local government paid counterpart fund. This goes to highlight the importance of finance in sustainability.

The basic parameters for assessing sustainability is a very important phenomena and (Olympio Barbanti 2013) see sustainability at the local level involving six dimensions and they are social, economic, ecological, political, cultural and ethical including the respect and enhancement of agro- forestry and social justice. In this case projects involving NGO’s, associations and co-operatives of peasants and small-scale rural producers could be assessed. Similarly, (Riki Savaya et al 2009) argued that in determining sustainability, factors such as organizational setting, community environment and factors pertaining to the project contribute to or hinders program sustainability should be given serious considerations since large percentage of new programs cease to operate within a relatively short time after their initial funding runs out, disappointing the hopes placed in them and wasting the human and financial investment made in the projects.

In the study area, the findings of (Olympio Barbanti 2013, Riki Savaya et al 2009) are relevant and should be a guide to the Commission. Most projects already built in the study area have collapsed due to the fact that the initial funding has finished and no new sources of fund injection, coupled with incompetent managerial abilities and organizational lapses that greatly impacted on the projects sustainability. A case study of project failures due to non-sustainability are the Modern Poultry farm in Avutu Obowo, the Amaraku Power station in Mbano and the Resin Paint Industry in Mbaise, the Ezinachi Clay Industry etc. all Imo state Nigeria. Though these projects were not NDDC projects, but lesson would be learnt from them so as to understand the importance and factors affecting project sustainability. These projects collapsed completed and the premises locked –up as a result of managerial incompetency, financial strangulation, corruption and recklessness by the military government in power who engaged in an unguided privatization with a hidden agenda of converting some of those projects to family investments. That was a glaring exhibition of corruption, diverting public fund to acquire these investments as personal and family investments.

Sustainability is in recent time utilizing technological models in evaluating the level of sustainability, (Shen et al. (2005) developed a model involving dynamic functions of a project's economic impact, social impact and environmental impact respectively. The study shows that a project's sustainability capability can change due to the impact of various dynamic variables, particularly those relating to, technical measures and people's perception and also concluded that technological advancement is more influential on project sustainability than people's perceptions.

Also, (Xiaoling Zhang et al 2014) evaluated the level of sustainability of construction projects using a prototype dynamic model and assessed them in terms of sustainable development value (SDV) and sustainable development ability (SDA). The study developed an improved SDA prototype model that incorporates the effects of dynamical factors on project sustainability by introducing rapid advancement of scientific technological advancement and improved people's perception.

A proposed framework for the sustainability of urban transport system which is different from the conventional approach using Ghana as their case study were done by (Steven Jones et al (2013), they integrated the indigenous and the scientific approaches to sustainability of projects by introducing the localized sustainability score (LSS). They ascertained that the localized sustainability score has the added advantage of evaluating projects of different scales, which were not usually done easily using the conventional approach. Their conclusion was that the framework adequately represented local sustainable transport needs, priorities and perceptions and allows relative comparison amongst various types of projects as they claim it allows for objectivity and accountability in urban transport decision making process in projects.

3. Methodology

The study utilized a sample survey in which four hundred structured questionnaires were distributed in the selected communities of Ohaji/Egbema, Oguta and Obowo Local communities. A total of two hundred and ninety eight valid questionnaires were used for the analysis which is deemed a reasonable and reliable population Krejcie and Morgan (1970). Oral interviews were conducted on nine residents of the area under study. Though sustainability of projects is a new dimension, hence much literature has not been done on it, the relationship between sustainability and project management is still a developing field of study (Silvius 2014), however, secondary data were collected from journals, books, magazines internet and published materials including previous research and analysis by scholars that are related to the subject.

Analysis and findings

The sustainability of NDDC water, roads and electrification projects in the selected communities in Imo State needs a well-articulated design since most projects executed in the states have had the problem of maintenance after commissioning. The result from the data collected from participants in the communities under study shows that the issue of sustainability is quite new to some of them in the rural communities and the more educated ones were asking where sustainability is when the projects were neither adequately completed, monitored nor evaluated. If a project is well articulated and structured, then there would be successful implementation and evaluation, and the evaluation would now make provisions for the sustainability. More than 70% of the participants were of the view that there projects has no sustainability plan and calls for NDDC and the project managers to undergo studies and add sustainability programmes in their community development projects. These projects are not

perceived to have really met the needs of the present and then there is little or no hope for the future and sustenance as the roads were not standardized. The cases of abandoned projects here and there are not good for the Commission and the communities concerned and even when they are completed, they do not meet the minimum quality of the millennium projects especially the roads projects.

4 Conclusion

The results from all the literature has explained the importance of sustainability in projects and programmes and emphasized that sustainability are determined by factors such as economic, social, political and environmental (Peter et al 2012). The role of funding and organizational structure coupled with the political and governmental influences is very vital in sustainability of projects (Alana Rosenberg et al 2008).

This study is quite educative as it shows that sustainability are not only limited to projects and constructions rather involves programmes and education with consideration of key competencies in graduating students for sustainability. It is therefore welcomed that every project design through implementation and evaluation should consider sustainability and put in place all the necessary structure so that the projects would not die

after the "life-of-project effectiveness". And even if the conceptualization and design cannot put in place sustainability process, they should emphasize in the concluding part of their report the need for articulated sustainability procedure and implementation. Projects should be made to have a long term effect through sustainability and at the same time continue being relevant to current and future citizens.

North Eastern Region Community Resource Management Project (NERCORMP) interim evaluation IFAD (2006) in her evaluation report on the sustainability of rural development projects case of Indian "rated the sustainability of the project as moderately low, primarily due to uncertainty regarding factors such as future funding, repair and maintenance of infrastructure, and markets for agricultural products", and in like manner, the sustainability of NDDC water, roads and electrification projects in the selected communities in Imo State lacks sustainability plans and calls for the need by the Commission to have a well-articulated sustainability design for her projects not only in the communities under study but in all NDDC projects. Most similar projects executed in the state have had the problem of maintenance after commissioning resulting in poor performance and at times complete breakdown of such projects. This paper also concluded that since the NDDC projects are not adhoc in nature, there should be need for the project designers and sponsors to consider the various factors affecting sustainability and make the most appropriate recommendations so as to have projects that would live the taste of time. The paper suggests that community participation in developmental projects would be a guide and ensure the sustainability of such projects in the Niger Delta Region of Nigeria and other developing countries. This is in line with Udensi et al (2012) conclusions in their study that dedicated community leaders should be identified and members of the community made to contribute their own quota towards community development projects, such contributions will enhance sustainability of the community projects.

The paper recommends forming an international body through the United Nations on project sustainability with a defined objective of designing a master plan and procedures for sustainability of projects and making it mandatory for all countries to adopt and ensure a sustainability plan for projects.

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Rethinking Sitting in the Mobile Modernity: From Movement to the Sitting Society

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Abstract

This paper focuses on *sitting*, which has a deep-rooted cultural and historical background and is an interesting indicator of post-industrial society. For this purpose, I firstly discuss the sitting action as a cultural value. After that, I illustrate conceptual relations between sitting, space, movement and society. Also, I demonstrate the relationship between urban design and sitting, and the analogy between sitting and seat as a social metaphor. Mainly, I emphasize the sitting society, in the context of freedom and modernity, by seeking insights into two significant places (sitting rooms and cemeteries) and examining Wall-E (an animation film). It is possible to deal with this paper as an *introduction* to the academic issue of the sitting society.

Keywords: Sitting, society, film, urban life, mobility.

Introduction

“You have to think of everything, even how you sit down”

Cynthia Walker

At first glance, sitting may refer to the stability of entities (Newman, 2002: 19). However, it is nourished from rich and analysable cultural heritage—so much so that—even thinking about sitting can provide a socio-psychological and spatial perspective concerning collective unconsciousness of human beings. Sitting itself is a universal act that explains cultural preferences and differences. Just as people have differing ideological, political, racial, religious and historical background, sitting is differentiated from individual to individual, from community to community, from culture to culture, etc. In other words, all non-written socio-cultural differences are, in some way, embodied through differentiations in furniture design. For instance, Japanese and Korean style furniture and indoor design are based on floor-sitting, whereas the chair-sitting principle dominates in Western societies; and, more crucially, this formulates even the most simple life-sustaining designs, from drinking culture to host culture, from intra-family communication to meeting culture, eating habits to prayer styles, etc.

In principle, spaces can be dealt with around three extensions, as sitting space, walking space and waiting space. Sitting may be a result of physical necessity, such as eating and drinking something, or resting; on the other hand, waiting may refer to cultural needs, such as entertainment and shopping. In this respect, waiting space is collectively formed by virtue of shared norms and values. Although sitting, walking and waiting spaces are close to each other in a spatial sense; these are somehow separated in terms of socio-economic activities. That is perhaps why sitting in a clothing shop is not hailed by social norms and expectations. Similarly, it can be considered strange that people walk continuously in a café in which consumers sit with pleasure. What is more, those who wait for someone in a café feel themselves obliged to place an order as a tacit rule of the sitting place. This may show that spatial fiction has a power to determine which action is acceptable and to separate hosts from strangers.



Figure 1

Sitting is a way of spending time.

Photograph by Ara Güler.

Sitting with others is to share a common culture and social norms; also, it means meeting around a collective aim; that is why many meetings generally take place while sitting. Those who sit can easily appreciate the differences and similarities of places and of those who

sit in those places.¹ On the other hand, places are on the move, so those who sit at the heart of places move along with those places.²

Sitting as a Social Metaphor

In ancient times, the chair was a special and a privileged object. It was designed for gods and goddesses in Catalhöyük,³ in the Neolithic age, in 7,000 B.C. After that it was produced, respectively, for kings, artists and other people in the Egyptian, Mesopotamian, ancient Greek and Roman civilizations. In the Middle Ages, especially clergy and aristocracy used this object that was produced by hand. Since the industrial revolution, it has been produced with the assistance of technological innovation, and everyone has access to it.

Chairs that are designed, made and placed by human beings have crucial importance for them (Dant, 1997:66), because chairs have been used at the most sensitive points of life, such as signing ceremonies, examinations, employment, etc. So many objects and places would be meaningless without chairs. For instance, what would be the meaning of a table or a cafe without chairs? There are different versions of chairs, e.g. armchair, throne, seat, sofa, stool, throne, wheelchair, bench, electric chair, rocking chair, massage chair, swing, school desk, etc. It is therefore possible to claim that life is a four-footed chair. Namely, people have governed states from their armchairs, painters have created masterpieces from their stools, students have been educated at their desks, physically handicapped people have adapted to life in their wheelchairs, guilty people have been punished on electric chairs, and authors have sat in brown studies on their rocking chairs. This means that the chair, which has a deep-rooted historical background, is one of the most common objects in the world. Moreover, the shapes and heights of chairs provide interesting and different meanings. For instance, teachers' chairs are generally higher than those of students, also white-collar managers have comfortable armchairs in comparison with blue-collar workers' chairs, because "the object can also be designed to embody social relations of power" (ibid, 67). This object is one of the most visible indicators of hierarchy. They are produced in accordance with their meaning, rather than their function.

Sitting places, seats and sitting orders are fictionalised in relation with status and hierarchy. For instance, those who travel in business class are separated from other passengers through seat and sitting order. More obviously, the seat is an expression of personal identity. Although first or business class travel, which is represented by sitting order, is not safer, it is preferred and costs much more because it gives passengers an opportunity to purchase and display their status. The seat in business class is a sort of social demonstration. Seats regulate not only spaces but also status; accordingly, those who sit close to each other are also close to each other in a socio-economical sense, because there is a non-paradoxical relationship between the formation of identity and spatial preferences. "To be human is to live in a world that is filled with significant places: to be human is to have and to know your place" (Relph, 1976: 1).

A New Paradigm of Mobile Modernity: The Sitting Society

Sitting, as an action, means to "dwell, reside, live (at a place), which are normally applied only to humans" (Lichtenberk, 2002: 307). There is an implicit analogy between

¹ "The person who sits next to someone can easily smell his mouth" (Chinese proverb).

² "If you sit by the river long enough, you will see the body of your enemy float by" (Japanese proverb).

³ Catalhöyük was and is a very important historical place in Anatolia in Turkey.

nomadic societies and walking, also between sedentary societies and sitting. Sedentariness is a form of social sitting. In other words, sitting represents a sedentary society; in contrast, nomadic societies are represented by movement. Namely, nomadic societies are mainly consumer and predatory societies. Sedentary societies are indeed agricultural societies, hence they are productive. They have 'written culture' and various artistic activities. It is possible to claim that art is an outcome of sedentariness; therefore, the most magnificent masterpieces have been created while sitting; the most impressive songs have been composed while sitting, the most marvellous poems have been written while sitting. All these examples underline the crucial importance of relationship between sitting and artistic productivity. Another distinctive feature of sedentary societies is to create culture and then transfer it to the next generation. It can be mentioned that civilization is a peak that can be reached essentially by sedentary societies. Similarly, those who prefer sitting are able to face the truth of their potential and define their identity. However, movement (walking, running, mobilizing, travelling, etc.) may manipulate people and may cause them to forget their duties and responsibilities by means of artificial objects and occupations. Mobility and movement may be useful for learning but not for producing indeed. Sitting is a shelter that protects people from the hurricane of movement, from liquid mobility and unending change in society.

As Büscher and Urry (2009) mention, there are different kinds of travel. Imaginative, virtual and communicative travel forms are useful to those who do not travel corporeally and physically. The sitting society is based on these travel forms, because people who are parts of the sitting society prefer textual and/or visual media to fulfil their expectations about travelling. For instance, a sitting person in Turkey is able to join a conference held in Australia and read a book in Lancaster University library; also, this person can easily communicate, argue or fall in love using mobile technology. In other words, the slogan of the sitting society is 'you can and must do everything, whatever you want, by sitting, without moving'. There are actually various combinations of this slogan in social life: 'find a job by sitting', 'work by sitting', 'find your partner by sitting', 'reduce your weight by sitting', etc.

Sitting is the modern notion of learning. Learners can study a text while sitting. Conversely, there is no way to read while running. Audio books, for instance, refer to listening activity, but not reading. Likewise, it is almost impossible to write something while lying, walking or running. Information can be produced, shared and acquired through the sitting that is necessary to possess learning tools and use processes, such as computers, books, lectures, libraries, etc. In short, sitting is a sort of intellectual bridge between learners and learning activities. It is inwardly the beginning and the essence of thought and philosophy.

Sitting is one of the easiest ways to do and have something.⁴ This may lead to obesity which is a characteristic disease of the sitting society. In addition, diabetes and heart disease may arise from this condition. For instance, even companies which sell sports equipment present ways to become thin without movement. Also, most of weight-loss diets are based on sitting. Diet patches, weight-loss pills and other diet products represent the attenuation style of the sitting society. Moreover, the internet provides many opportunities to fulfil needs and expectations; here, people can communicate with their friends while sitting, they can fall in love, and even marry. They can earn and spend money; entertain and suffer. This is a kind of *placelessness*, and it is the result of modern societies (Birkeland, 2008:44). Sitting may

⁴ "Never do anything standing that you can do sitting, or anything sitting that you can do lying down" (Chinese Proverb).

represent something which is dying out in city life; as Sennett (1992:50) mentions, this is the reason for the urban crisis.

Fast-food culture is one of the indicators of the crisis. The motto of the fast-food culture, in the context of sitting, is *'do not sit for long'*, because its essence is based on fast-moving consumer goods and a circulation system. For this reason, seats in fast-food stores are functional, not comfortable and they do not encourage sitting for a long time. The duration of sitting may be determined by the comfort of the seats. In fast-food culture, it is not easy to focus on what is eaten and with whom it is eaten; also, it is difficult to socialize and converse with other people in fast-food stores, in contrast to restaurants. People can spend more time in restaurants; however, this is as a result of economic interest, because people order as much as they sit. Briefly, people are independent until they decide where they sit; however, after they sit, they are dependent on the sitting culture of where they sit.

Similarly, sitting can be a sort of punishment, because movement represents freedom for prisoners. Prison, as the opposite of freedom, means isolating walls that stop people from moving effectively. Punishment, in other words, is to restrict the field of movement. Sitting prisoners down may be an ameliorated form of guilt in the sight of law-makers and rule-makers. Those who are interrogated have to sit on a chair. An angry father, for instance, says to his naughty son: *sit down and do not move!* Sitting is a position that is considerably opposite to the nature of children. For that reason, forcing children to sit is equal to punish them.



Figure 2

Flying while sitting.

Photograph by Gökтуğ
Özgül.

Constant movement may cause a depersonalisation. However, sitting (and stopping) allow inhabitants to face their desires and real expectations; whereas walking in a crowded place may suppress internal confrontation by highlighting the presentation of surfaces (Bauman, 1995:134. These surfaces consist of social masks that are used as requirements for surviving in the city (Sennett, 1993:264). There is no doubt that sitting reminds people how to spend their valuable lifetime. Sitting operates like a showdown in modern times. As Charles William Stubbs, who was an English clergyman, says: “to sit alone with my conscience will be judgment enough for me” (Modison, 1871: 132).

Sitting is a form of communication. It is a sign that represents social structure, culture and values, etc. In some culture, sitting is seen a moral criterion; for instance, in many Eastern cultures, teenagers cannot cross their legs in front of their parents, because the attitude can be perceived as sauciness. Sometimes, sitting on its own may represent leadership and authority, like “Sitting Bull”. Why is he *sitting*? Because the Bull, by sitting, implies that he was, is and will be here.



Figure 3

Sitting Bull.

Sitting is power and resistance.

Walkers shape space (Macnaghten and Urry, 1998:204); however, those who sit in a certain place become a part of space and they are formed by the seat (chair, bench, automobile seat, sofa, etc.) that insists on having its own way. In other words, the place where one sits may determine who one is. Besides, sitting may refer to disobedience (a sit in), and it is an expressive form of resistance: *'this place belongs to me'*. Insistence can be represented by various sitting postures that are a different form of language: *'I will not leave, here is my place'*. There is an interrelation between cultural orientation and social conflict (Touraine, 1981:77); therefore, sitting, as a cultural paradigm, may be internalised by social groups and can be a form of community organisation, like sit-down strikes. Thus sitting combines individual expectation with collective consciousness. Sitting produces one of the most effective forms of social reaction, even though it is the most stationary position: *'we will not go anywhere!'*. People generally stand up to fight; however, sitting is one of a way of struggling against anger and violence. Those who sit are able to control themselves. A sitting posture does not allow fighting.



Figure 4 Prayer by sitting as a universal act.

Moreover, meditation and prayer are mainly based on sitting. Relaxation requires sitting. For instance, if looking in the direction of Yoga or Zen meditation, it is easily seen that sitting is a main level of relaxing meditation. It begins and ends with the position of cross-legged sitting that provides concentrate. Similarly, in many religious activities and rituals, sitting plays a crucial role. Sometimes, worship can be performed only by sitting. Sitting, in terms of physical posture, demonstrates the helplessness and weakness of worshippers; as mentioned above, those who sit cannot fight.



Figure 5

Business world does not like sitting.

Apart from this, sitting is formed by modern life, particularly in compliance with business principles. For instance, Canon workers are forbidden to sit down. Hisashi Sakamaki, the president of Canon Electronics, wrote a book, titled *A Company will do well if you get rid of the chairs and computers*. Sitting, in this perspective, is evaluated as the opposite of doing hard work. Also, it refers to laziness and non-action. For instance, a teacher and parent can say: ‘*you have been sitting for hours; you should study*’. Furthermore, sitting is an autonomous action. Nevertheless, a person who watches television while sitting does not say: “I am watching, but not sitting”. Similarly, sitting is sometimes nothing. The following dialogue is very common between two people who stand and sit:

- What are you doing?
- Nothing! I am just sitting.

Sitting has different meanings in different positions and places. For instance, sitting in prison means loneliness, while sitting on a beach may represent freedom.

Sitting Room and Cemetery

Sitting rooms, especially for collectivist societies, are undoubtedly the most common space of family members. They transform houses into homes by gathering the disconnected members of the family together. In these rooms, problems are solved, expectations are shared, decisions are made by and about family members, and thus sitting rooms have a vital function to perform, to gather together family members and create collective consciousness among those who have different perspectives, personalities, interpretations and responsibilities. Individualization of the family institution is, as Sennett (1992: 52-53) argued, equal to primitivisation of social life; for that reason, social disintegration starts in sitting rooms. In other words, sitting rooms protect families against the risk of familial (and thus social) disintegration. Home, as a “space for cheer and intimacy” (Bachelard, 1994:48) owes its existence to “the oppositions between risk and control, danger and security, combat and peace, episode and perpetuity, fragmentation and the whole” (Bauman, 1995: 135-136).



Figure 6

Sitting makes individuals a family.

The cemetery is also one of the most active of places, even though it does not move, even slightly. The interesting point about the reality of the cemetery is that people who visit their friends' or relatives' graves do not sit, as if it is a rule of the cemetery. It is universally difficult to find an object to sit on in cemeteries, because sitting in cemeteries refers to a focus on the reality of death that is as truthful as life.

In old times, cemeteries were close to town centres, but in time, they were isolated from centres of population to the country as real life was exalted. This situation is understandable and relates to modern lifestyles, because the modern individual is isolated from death, which is one of the main parts of life. Namely, the modern understanding of life excludes thoughts of death from vivacious social life. Although “the majority of time is thereby used shuttling between different places” (Pedersen, 2009:134), the cemetery is not one of these places.

Future of the Sitting Society: WALL-E

Wall-E is an Academy award-winning computer-animated science fiction film that was produced by Pixar Animation Studios and directed by Andrew Stanton. According to the story, Earth is destroyed by humans and is uninhabitable; hence people live in outer space. The name of outer space is *Axiom*. This film implies the analogy between *Axiom* and the sitting society that people live in; for this reason, the animation film may be useful to foresee the future of the modern society in the context of sitting attitudes. There is an obvious similarity between this film and Kingsley's analysis: “Digital and physical movements are integrated to form a *digital nexus system* but this is a future which will augment the integration of databases that will have direct implications for human freedom” (Dennis and Urry, 2009: 101).



Figure 7

A scene from the animation-film, WALL-E
(2008).

The slogan of Axiom is: *there is no need to move*. Inhabitants in Axiom do not walk, but only sit. They solve their problems from their *mobile seats* without moving their bodies. The seats have monitors that are controlled by a central computer system that fulfil their expectations. They merely look at monitors and touch screens to provide their needs, from food to communication. In addition to that, there are some assistive robots that help them. For instance, when they fall off seats, robots pick them up. The only thing they need to do is *to remain stationary*. As a result of this, people are extremely obese in Axiom. Foods are also liquid, because even eating is a demanding activity for them.

Everything and everyday are unchangeably experienced in non-real or designed places.⁵ Questions and answers, as Axiom's captain asks every morning, are the same. Mechanical systems: unchanged. Reactor core temperature: unchanged. Passenger count: unchanged. Atmospheric conditions: unchanged. These features of Axiom remind prototype people of the sitting society. Not only people who live in Axiom, but also Axiom as a lifestyle, may refer to the sitting society.

Conclusion

According to Chinese philosophy, nature, souls and things consist of negative and positive forces, called Yang and Yin. Yang is an active, constructive and positive force, while Yin is a passive force. This nevertheless creates harmony. For instance, a cloud refers to Yang that produces rain, whereas the earth has a Yin force. As soon as rain and earth meet, greenness emerges as great harmony. Rivers represent Yang, because rivers are on the move. Fields that are stable represent Yin, and the trees between rivers and fields are the result of the harmony of the oppositions. Interestingly, the movements/positions of people are also just like that. Standing up and moving is Yang, while Yin means sitting. The realm of existence may therefore be a theatre of war between Yang and Ying that shapes things and relations.

Movement, as mentioned, forms places (Mazzullo and Ingold, 2008:32), but also immobility is one of the determining factors of places. Many institutions, such as hospitals, schools, prisons, cafes, city hall, stadiums, theatre buildings, etc. are products of sedentary societies that are indeed based on a sitting culture. Now, it can strongly be claimed that post-industrial society is the sitting society. Despite the fact that the concepts and possibilities of post-industrial modern, life such as tourism services, transportation networks and mobile technologies, etc. are often used by the majority of people, the 'social tides' have turned among sitting points or sitting places.

There is a negative correlation between the increasing population of cities and individual space. People see other people frequently, but only for a while; hence for Simmel (ibid.), they want to catch the other person's eye as quickly as possible. This creates intrapersonal and interpersonal conflicts. Namely, those who consume merely in order to show off what they buy may start to wear a social mask. The dialectic between face and mask intensifies day by day. This leads to intrapersonal conflict. These people, as Simmel (1997) said, may feel themselves alone and lost in the course of time. All they need is to stop and think, while sitting. In this way, they may realize whom they are, where they live and what

⁵ Mobility process and movement style in designed places like Dubai are not linear, but circular. In other words, the tourist place repeats itself.

they do and not have. Briefly, “stability is valued because society is unstable” (Sennett, 1993:179); for this reason, sitting can be a shelter that protects people against the hurricane of movement, the mobility and change in society.

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(*Movie*) *Wall-E*, 2008, Andrew Stanton, The USA.

The role of public libraries on reading culture: A study of public library in calabar municipality Cross river state, Nigeria

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Abstract

The study assessed the role of public libraries on reading culture in Calabar municipality. To achieve this, four hypotheses were formulated to guide the study. The descriptive survey research design was adopted for the study. The sample of the study was made up of 160 respondents randomly selected from the public library in Calabar Municipality. The major instrument used for collection of data was the questionnaire. The data collected were analysed using Pearson Product Moment Correlation at .05 level of significance. The findings of the analysis showed that: library services, information resources, attitude of librarians and availability of libraries facilities in public library are significantly related to reading culture of the users. Based on the findings, the following recommendations were made among others: programmes that encourage reading should be made part of their user services; relevant information resources that cut across all stages of the society should be acquired.

Key Words: Public Libraries, Reading Culture, Librarians

Introduction

The fundamental aim of libraries is to provide timely, accurate, pertinent and reliable information to their users. Libraries are devoted to improving access to information, and satisfying the user is paramount. There is a growing recognition that library services particularly in public libraries, are integral parts of national socio-economic development and improvement of the general quality of life, public libraries in Nigeria and part of the government, in terms of administration budget procedures. The establishment of public libraries in Nigeria is to reduce ignorance, among young people in rural areas. Library service in the former Akwa-Cross State which is the present day Cross River and Akwa Ibom States was very important in the history of public libraries in Nigeria. It set the pace of many public libraries in Nigeria. The former southern region, which was part of the Niger-Delta, also provided library services for adults, children and schools. Through grants from UNESCO, mobile library services were provided to serve primary and secondary school reading norms.

The importance of reading cannot be overemphasized. Reading occurs in the day-to-day activities and is seen as a part of life. Among various reasons for reading, it is pivotal such that, it cannot be separated from our living.

The trend in ICT and information literacy in recent age has redefined and changed the role of libraries and professional librarians, they are now not only passive keepers and preservers of books, rather, they are also the facilitators of information and life-long learning with an emphasis on services identifying users information needs and communicate solutions to them. In the 1980's more flexible and proactive facilities, often called resources centres (libraries), began to emerge as a force for social change and democratic reconstruction of civil society. These centres explored new relationships with their users valuing local, cultural, supporting community development and preserving indigenous knowledge. The goal of education for all involves the development of literate societies in the developing world, and cannot be attained solely by providing quality learning materials to schools. If people are to stay literate, they must have access to a variety of written documents and continue the habit of reading in their adult live to provide access to information sources, and ensure the users that users are in frequent contact with them. To achieve this through planning, extension of the library should be inviting and interior made attractive. Serene Environment should be maintained, lighting fitting, and good furniture properly fixed. Also, terms of service postulate proper user's information services and needs.

Literacy is an integral part of societal life, it is needed at home, in the classroom, in the work place, for development and preservation of the cultural heritage and that of history. Literal programs should be designed to function within a framework of relevance. In other to inculcate value and achieve desired goals via-dissemination of information. The libraries play a vital role in the provision of information (reading) materials for all.

Reading is a way to get better knowledge, experiences and it could be an exciting journey to self-discovery. Reading transfers experiences to the individuals so that the reader may expand his horizons, identify, extend and intensify his or her interest and gain deeper understanding of the world (Green, 2002). In simple words, it is a process of interpreting printed and written words. In depth, it is an effective process of conscious learning that influences the accuracy of information, attitudes, morals beliefs judgments and actions of readers (Panigrahib & Panda, 2009; Eyre 2005). Reading is regarded as one of the most important components in learning languages and also an essential tool for lifelong learning for all learners. This view is supported by Krashen (2000) who states that through reading, readers develop a good writing style, an adequate vocabulary and advanced grammar and become

excellent spellers. This improves the language proficiency and makes the reader to be a better speaker. The definition of reading has undergone many improvement. In the past, reading was meant to interpret visual information of any given codes or systems (Lone 2011). However, after that, reading become more complex and involved the understanding process of a whole text composed of written signs (fisher, 2010). Smith and Robinson (1980) defined reading as a process for the reader to understand a writer's message. Reading as a process of thinking, recalling and reading concepts under the functioning of written words, the reading process as interaction between the writer's minds with what is on the page with a particular context that causes the readers to commend what they read.

Reading culture refers to the behaviour which expresses the likeness of reading and tastes of reading (Sangkaeo, 2000). It is a way of how the reader organizes his or her reading. Similarly Shen (2006) identifies reading habits, as how often, how much, and what the readers read. Reading is generally accepted as a way of acquiring new information and new knowledge. It is not only to increase knowledge but also to build maturity and widen awareness of contemporary issue. A good reading habit is important for the development of personalities and mental capacities.

Books and libraries are often seen as redundant in some societies that are mainly based on oral tradition. In such societies, people stop reading once their education is assumed completed. They derive more pleasure from the oral and performing arts, like singing, dancing and socializing instead of forming their private and individual live through book reading. Since the majority is illiterate, it affects the minority who are literate, with the result of making oral mode prevalent (Totemeyer, 2000). The way forward is to develop basic reading materials that support literate base local knowledge, that are attractive to neo-literate. At this point, library through the acquisition of reading materials integrate the written words with role norms of such societies. This study is therefore, carried out to assess the role of library, in inculcating reading culture among the inhabitants in Calabar Municipality of Cross River State.

Statement of the Problem

Reading is important and beneficial to man and because of this the Nigerian Government is stimulating the reading of books, newspapers and magazines. This is also important now that an increasing number of people are spending less time reading and also when reading skills are shared. Research has shown that more than half of the adult in Nigeria hardly ever read a book. Those who read spend much smaller part of their leisure time doing so, compared to 25 years ago. Nigeria's reading culture is indeed one worrying aspect that needs serious attention if the nation is to avoid sliding further into an illiteracy vertex. Nigeria sadly stands as one of the nations where the reading culture has unfortunately become poor.

However, investing in the knowledge of an individual is one important component acknowledged by the United Nations in 2006 Human Development Report (UNDP, HUD 2006), according to the report "a well-read mind is assertive, articulate and seeks information to help solve daily challenges" such children will read and learn about their rights and other information that enhance the quality of life, thereby enhancing creativity. In Nigeria where people struggle for daily survival, it is beyond their purchasing power, libraries stand to be one of the practical solutions and useful tool for prompting literate communities. They acquired books through bulk purchases/order donations from the public and banquets. These materials are made available and accessible for public libraries.

Libraries are the custodian of local and international culture, the past generation lets on the reading of their stored life event. Right from the medieval period till now public libraries

have been very helpful in publicity, assisting in publication and promoting education, history and peaceful coexistence.

Hypotheses

The following hypotheses were formulated to direct the study:

1. There is no significant relationship between public libraries services and reading culture.
2. There is no significant relationship between public libraries information resources and the reading culture.
3. There is no significant relationship between attitude of librarians and user reading culture.
4. There is no significant relationship between availability of library facilities in public libraries and user reading culture.

Research Methodology

The research design adopted for this study is descriptive survey research design. The area for this study was Calabar Municipality, one of the local government councils in Cross River State, Nigeria. The population of this study was made up of 160 respondents randomly selected from all the libraries in Calabar Municipality. Since the population was not large enough, the total number was used as the sample. The major instrument used for collection of data was the questionnaire designed by the researchers. The validity and reliability of the instrument were properly ascertained.

Results and findings

Hypothesis one

There is no significant relationship between public libraries service and user reading culture. The independent variable in this hypothesis is public libraries services, the dependent variable is user reading culture. To test this hypothesis, public libraries services were correlated with user reading culture using the Pearson Product Moment Correlation analysis. The result of the analysis is presented in Table 1.

Table 1

Pearson product moment correlation analysis of the relationship between public libraries services and user reading culture (N = 160).

Variables	$\sum X$ $\sum Y$	$\sum X^2$ $\sum Y^2$	$\sum XY$	r
Public libraries service	2341	6124		
user reading culture	3036	9156	67538	0.63*

*Significant at 0.5 critical r = .159, df = 158

From table 1, the calculated r-value of 0.63 is greater than the critical r-value of .159 at 0.05 level of significance with 158 degrees of freedom. Hence, the null hypothesis was rejected. This means that there is a significant relationship between public libraries services and users reading culture.

Hypothesis Two

There is no significant relationship between public libraries information resources and user reading culture. The independent variable in this hypothesis is public libraries information resources. The dependent variable is user reading culture. To test this hypothesis, public libraries information resource were correlated with user reading culture using the Pearson Product Moment Correlation analysis. The result of the analysis is presented in Table 2.

Table 2

Pearson product moment correlation public library information resources and user reading culture (N = 160).

Variables	$\sum X$	$\sum X^2$	$\sum XY$	R
	$\sum Y$	$\sum Y^2$		
Public libraries Information	1971	3743		
			54186	0.53*
User reading culture	3036	9156		

*significant at .05 level, critical r = .159, df=158

From table 2 the calculate r-value of 0.53 is greater than the critical r-value of 0.159 0.05 level of significance with 158 degree freedom. Hence, the null hypothesis was rejected. The means that there is a significant relationship between public libraries information resources and user reading culture.

Hypothesis Three

There is no significant relationship between attitude of librarians and user reading culture. The independent variable involved in this hypothesis is librarians' attitude, while the dependent variable is user reading culture. To test this hypothesis, librarian attitude were correlated with user reading culture using the Pearson Product Moment Correlation analysis. The result of the analysis is presented in Table 3.

Table 3

Pearson Product Moment Correction Analysis of the relationship between librarians attitude and user reading culture (N=160).

Variables	$\sum X$	$\sum X^2$	$\sum XY$	R
	$\sum Y$	$\sum Y^2$		
Liberians attitude	1806	3598		
			44542	0.36*
User reading culture	3036	9156		

Significant at .05, critical $r = .159$, $df=158$

From table 3, the calculated r -value of 0.36 is greater than the critical r -value of .159 with 158 degree of freedom. Hence, the null hypothesis was rejected. This means that there is a significant relationship between librarians' attitude and user reading culture.

Hypothesis Four

There is no significant relationship between availability of libraries facilities in public libraries and user reading culture. The independent variable involved in this hypothesis is availability of library facilities, while the dependent variable is user reading culture. To test this hypothesis, availability of libraries facilities were correlated with user reading culture using the Pearson Product Moment Correlation Analysis. The result of the analysis is presented in Table 4.

Table 4

Pearson Product Moment Correlation Analysis of the relationship between availability of libraries facilities and user reading culture (N = 160)

Variables	$\sum X$	$\sum X^2$	$\sum XY$	R
	$\sum Y$	$\sum Y^2$		
Availability of libraries	1756	3069		
User reading culture	3036	9156	43887	0.38*

Significant at .05, critical = .159, $df = 158$

From table 4, the calculated r -value of 0.38 is greater than critical r -value of .159 at 0.5 level of significance with 158 degree of freedom. This means that there is a significant relationship between availability of library facilities and user reading culture. Hence, the null hypothesis was rejected. This means that there is a significant relationship between availability of libraries facilities and user reading culture.

Conclusion

Based on the findings of the study, the following conclusions were reached: there is a significant relationship between public libraries services and users reading culture; public libraries information resources is significantly related to users reading culture; that there is a significant relationship between attitude of librarians and users reading culture; availability of library facilities in public libraries is significantly related to users reading culture.

Recommendations

Based on the findings of the study, the following recommendations were made;

1. Programmes that encourage reading should be made part of their users' services.
2. Relevant information resources that cut across all state of the society should be acquired.
3. The attitude of librarians should be change and this could be achieved by training and retraining.
4. Provision should be made for physically challenged readers.

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Rotor Misalignment and Unbalance Detection Using Wavelet and Neural Network Techniques

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Abstract

This work is aimed to perform an automatic diagnostic for the rotor misalignment and unbalance faults. In the experimental work three different vibrational signal conditions namely (Healthy, Misalignment, and Unbalance) are simulated using a simulator machine which is known as Centrifugal Blower Test Setup. In the analysis stage, Wavelet Transform is utilized to be as a preprocessing unit for the features extraction which are represented six parameters related to time-domain and two parameters related to frequency-domain. Then with the second stage in analysis Artificial Neural Network (ANN) has been applied to be as automatic classifier for the three different faults. Multilayer Perceptron (MLP) Neural Network has been performed along with a suitable learning algorithm called Back-Propagation Algorithm in order to achieve a high optimization for (MLP) classifier. The results show the effectiveness of the combination between the Wavelet Transform and (ANN) classifier as the faults classification has been performed successfully with 100% success rate.

Keywords: Misalignment, Unbalance, Automatic diagnostic, Artificial Neural Network (ANN), Multilayer Perceptron (MLP), Learning algorithm Back-Propagation (BP), Wavelet Transform.

1. Introduction

Process industries become more needful for such solutions that provide the best treatments for the increasing of complex machines which are associated with the extremely demanding performance. The economic loss and safety problems due to failure of machines will not make the industries suffer alone but also the world. Misalignment and unbalance are the common cause for the failures of the machines and the solutions of condition monitoring provide different and extended techniques to avoid or at least to reduce such failures in rotating machines. The vibration detections of rotor misalignment is highly important as the rotor misalignment after unbalance is considered to be the most common reason for the mechanical vibrations, and that leads to a lot of catastrophic faults such as bearing faults, shaft, and coupling shaft misalignment and it has remarked that about 30% is resulted in the machine's down time is because of the poorly aligned machine, and misalignment is being the cause of 70% of the rotating machinery vibration problems in industries Hariharan, (2011). Hariharan, (2011) investigated the misalignment throughout the experimental and simulation works. It has found that the misalignment can be characterized two times shaft running speed (2X). But, misalignment (2X shaft running speed) was not matching enough to one of the system natural frequencies which bring to understanding that the misalignment response is hidden and appearing in the vibration spectrum. Hence, in case of finding the 2X running speed is closer to the natural frequencies, then the influence of misalignment will be amplified and with the mode of frequency spectrum, a high acceleration level at 2X shaft running speeds will be given. The main reasons of arising misalignment are improper machine assembly, thermal distortion and asymmetry in the applied load. Misalignment of the machinery shafts is leading to the forming of reaction forces in the coupling, and hence influences negatively on the machines which is resulting in the machinery vibrations Tejas H. Patel, (2009). A study by Hilli, et al.(2006) is stated that by developing a model for both misalignment types; angular and parallel to analyzing the vibration response in order to measuring and identifying the loads which is influencing the bearings. It has reported that misalignments are occurred due to the unequal foundation movement or uneven thermal heating in the rotor systems. It's also mentioned that misalignment causes forces and moments at coupling location, which effects the vibration of the rotors. It has stated that that the correspondent spectra show that misalignment was appeared at 2X shaft running speed and that showed a good understanding in detecting the misalignment conditions to avoid any failures. Arun Kr. Jalan (2009) stated that the perfect alignment of the driving and driven shafts cannot be achieved in practical applications, even with the achieving of perfect alignment as it would be impossible or very difficult to maintain it through the working of machines as there are number of factors such as thermal distortion of housing supports of the bearings, differential thermal growth of machine parts, piping, forces due to variation in pressure and temperature, movement of foundations. V. Hariharan, (2010) reported that an unbalanced rotor leads to vibration and makes extreme force in the bearing and decreases the life of the machine. He has also stated that only a small unbalance could lead to a big problem to the high speed rotating machines. Hang over rotors are widely applied for many applications such as fans, pumps, and turbo machinery. Hence, the vibration arising out of the unbalance will damage many parts in the rotating machines such as bearings, seals, gears, and couplings. Hilli, et al.(2006) conducted a numerical model of a spinning system to measure the effects made by the simultaneous existence of unbalance. The method was followed is to apply a spectral technique to compute the system dynamic response. It has been stated and proved that the correspondent spectra show that unbalance was appeared at 1X shaft running speed and that showed a good understanding in detecting the unbalance conditions to avoid any failures.

The effective of using Wavelet Transform technique was reported by Jian-Da Wu, (2009) as it used to extract features from the sound emission time-domain signals to be processed after that for a fault classification using ANN. It was pointed out that the reason of using Wavelet Transform technique due its resolution as it works as time-frequency domains, thus both information of time and frequency will be exposed and ready to make extraction of different features related to both time and frequency domains.

Al-Raheem et al, (2010) has investigated the usage of three types of ANN classifiers which are Multilayer Perceptron (MLP) with BP algorithm, Radial Basis Function (RBF) network, and Probabilistic Neural Network (PNN). The extracted signals which are in the form of time domain were vibrational rotating machine signals related to different bearing conditions. These time domain extracted signals were pre-processed using Laplace Wavelet analysis and then used as input features for all the three ANN classifiers. The selected bearing conditions were: healthy, outer, outer, inner and roller faults.

The results proved the high effectiveness of using MLP-BP ANN classifier in detecting the different bearing faults by approaching a success rate of 100%. S. Rajakarunakaran, (2008) has investigated the application of Artificial neural network in detection of rotating machinery system faults. There were two types of ANN used in centrifugal pumps which are feed forward network with back propagation algorithm and binary adaptive resonance network (ART1). It has reported that ART network method was so effective with success rate of 100% in detecting deferent types of faults. B. Samanta ,et al. (2006) investigated the application of ANN to detect bearing faults. It has been used three types of the ANN classifiers which are: multilayer perceptron (MLP), radial basis function (RBF) network and probabilistic neural network (PNN). The features were extracted from the time-domain signals for both conditions of healthy and faulty which were used as input vectors for the three ANN types. It has found a classification of 100% for MLPs and PNNs for mostly all conditions and it was concluded that occurred due to using GAs with only three input features as GA is working to optimize the selection of input features and the appropriate classifier parameters. However, with the applying of six input features, it has found that the classification of both MLPs and PNNs was 100%, while with using eight features; it has shown a classification of 93.31% for RBF network approach. It has also concluded that the training time of selecting the features was more acceptable with the type of PNNs. A.J. Hoffman,(2002) has illustrated the effectiveness of applying ANN classifier in detecting the faults of bearing and within same time diagnosing the degree of imbalance. It was stated that the using conventional vibration analysis techniques are not effective any more for the multi fault conditions such as bearing defects, unbalance and looseness. It has been applied deferent types of ANN classifiers. The SOM classifier reported to be effective in initial data processing as it is flexible in using as a tool. It was also proved to be as effective in classifying hidden relationships between the features. Nearest Neighbour Rule (NNR) classifier showed an effectiveness of being once in the phase of training, it is not required any optimization. However, the other applied classifier was Radial Basis Function (RBF) was reported to be faster in the speed of training than SOM classifier and NNR classifier. Finally, it was reported that the using of MLP without the assistance of algorithms is quite not effective.

2. Theory

2.1 Wavelet Analysis

As a first introduction of wavelet was presented by Goupillaud (primer, 1998) [6] and that was for seismic records analysis. The parameter a , corresponds to a dilation or

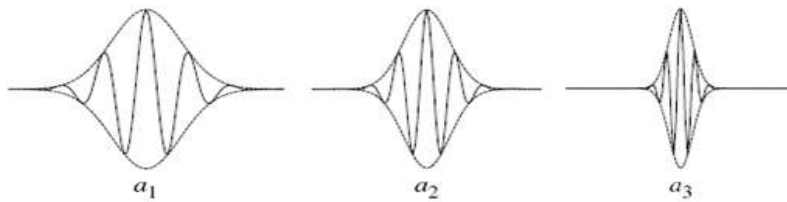
compression of the mother wavelet which is in this case defined as scale. The second parameter, b , identify a shift of the mother wavelet along the x -domain. In the case of wavelet transform, the frequency variable ω is replaced by the scale variable a and generally the time-shift variable τ is represented by b . Hence, the wavelet is represented as (Sheng, 2000):

$$\begin{aligned} \Psi_{b,a}(t) &= \frac{1}{\sqrt{a}} h^* \left(\frac{t-b}{a} \right) \end{aligned} \quad (1)$$

The continuous wavelet transform (CWT) is represented as:

$$\begin{aligned} WT\{x(t), a, b\} &= \langle \Psi_{a,b} \cdot x(t) \rangle \\ &= \frac{1}{\sqrt{a}} \int x(t) \Psi_{a,b}^*(t) dt \end{aligned} \quad (2)$$

Where $\langle \rangle$ points out to the inner product, the superscript asterisk '*' stands for the complex conjugate. The $\Psi_{a,b}$ is a family of daughter wavelets derived from the mother wavelet $\Psi(t)$ by continuously varying the scale factor a and the translation parameter b . The factor $\frac{1}{\sqrt{a}}$ is used to ensure energy preservation. Figure 1 demonstrates the machinery of wavelet functions which works for different values of the scale parameter a . consequently, the scaling makes the wavelet functions express the same number of cycles within the support of



the mother wavelet.

Figure 1. The machinery of wavelet functions (Politis et al, 2005).

2.2 Morlet

Morlet is the selected wavelet-function as it has more similarity with the extracted fault pulses shape and it is represented as

$$\begin{aligned} \Psi(x) &= Ce^{-x^2/2} \cos(5x) \end{aligned} \quad (3)$$

The constant C is used for normalization in view of reconstruction. Figure 2 indicates to this function

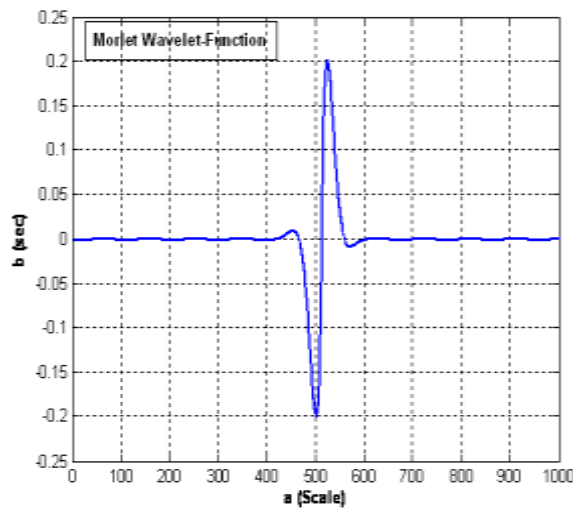


Figure 2. Morlet Wavelet-function

2.3 Feed forward Multilayer Perceptron (MLP) Network

Feed forward multilayer perceptron (MLP) is used to solve a complex and different problems by training them in a supervised learning process with a remarkable algorithm called the error-back-propagation algorithm which is based on the error-correction learning process. ANN classifier commonly consists of three layers; input layer and contains the extracted features, hidden layer which has no direct connection with the external world and its function is to perform a mapping between the input and the third layer which is known as the output. The Model of (MLP) is demonstrated in Figure 3.

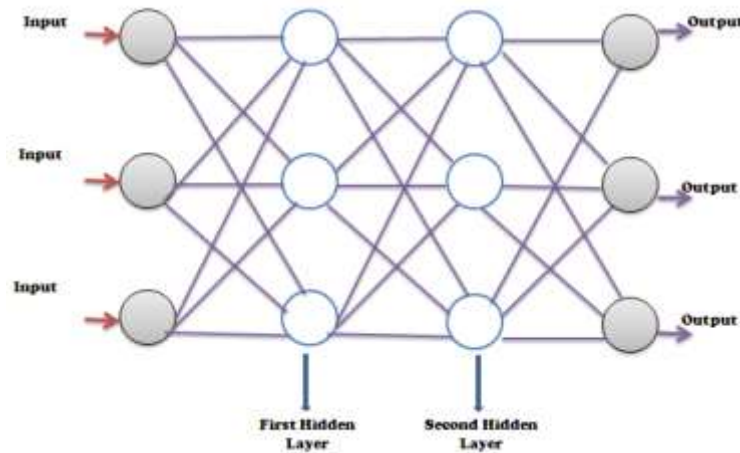
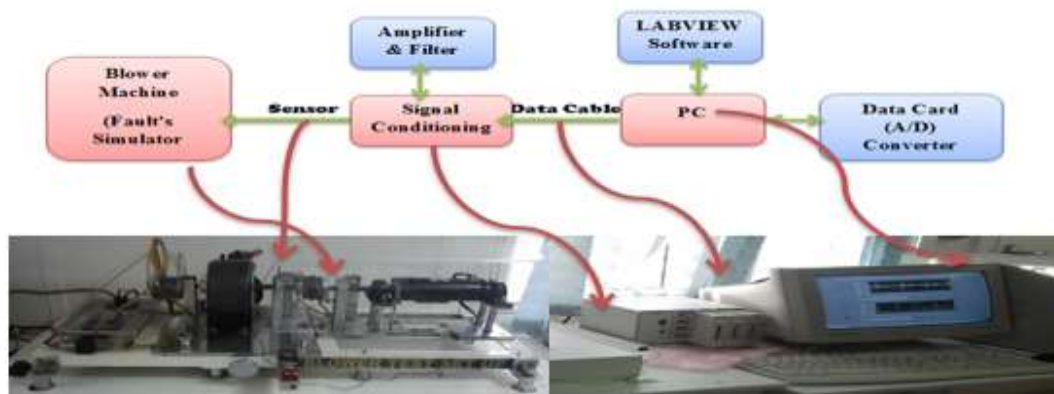


Figure 3. The model of MLP.

3. Experimental setup

This experiment was conducted in the Dynamic laboratory in Caledonian College of Engineering (CCE) using a Machine Fault Simulator which is known as Centrifugal Blower Test Setup. The used sensor is accelerometer sensor (type 4881). A PC with a data acquisition card and LABVIEW software were used. This machine is manufactured to simulating two types of fault which are misalignment and unbalance. Both faults have been simulated as well as the normal conditions.

Figure 4 shows the schematic diagram of the experimental setup that it demonstrates the followed steps. The experimental setup is started by enquiring the misalignment and unbalance faulty signals from the machine fault simulator by using accelerometer sensor. Then as the signals are in the physical form (Analogue form) a signal conditioning device is used to amplifying and filtering to approaching a clear signal. The signals then have to be shifted to the PC which contains the LABVIEW software and that occurred via using Data Cable (No. 192061B-01). The signals will be converted from analogue to digital form using data acquisition card from National Instruments (DAQ Card) (Type SHC 68-68-EPM). The sampling frequency which is done by DAQ card for the A/D converter is 16000 Hz for each Second. This experimental process ends by capturing the signal using LABVIEW software



which after that gets ready for analyzing by using MATLAB software.

Figure 4. The experimental setup

Misalignment has to be simulated using two different conditions using small piece of shims as demonstrate in Figure 5. The thickness of each shim is 0.03mm. The process starts with inserting two pieces of shim under each the four corner of set up under the blower side as shown in Figure 5. Unbalance is done throughout three conditions. As shown in Figure 6 each nut would be added as extra mass which is forming centrifugal forces of F_1 (with one nut) = $3.2823 \times 10^{-6} \text{ N.red}$, and $F_2 = 4.3765 \times 10^{-6} \text{ N.red}$.

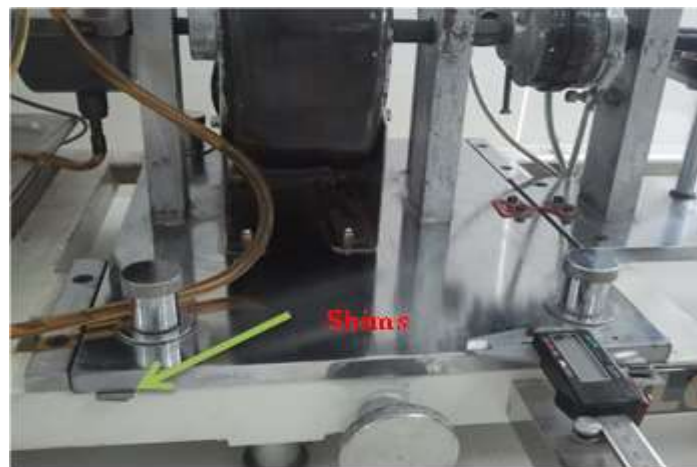


Figure 5. Inserting Shims to simulating Misalignment.



Figure 6. Adding extra mass to simulating unbalance.

4. Experimental results

A feed-forward Multi-Layer Perceptron (MLP) Neural Network was selected as a classifier and it has three layers. The first layer is the input which consists eight nodes that represent the feature extractions of both time and frequency domains. The second layer is the hidden layer and consists of five nodes and an optimization process was used by applying a Back Propagation that works to minimize the Mean Square Error (MSE) between the real network outputs and the desired target values. The third layer is the output which consists of three nodes that represent the three different conditions namely (Healthy, Misalignment, and Unbalance). The three digit output target nodes are as follows: Healthy is defined as (1, 0, 0), Misalignment is defined as (0, 1, 0), and Unbalance is defined as (0, 0, 1). The overall processes of the applied ANN are depicted in Figure 7.

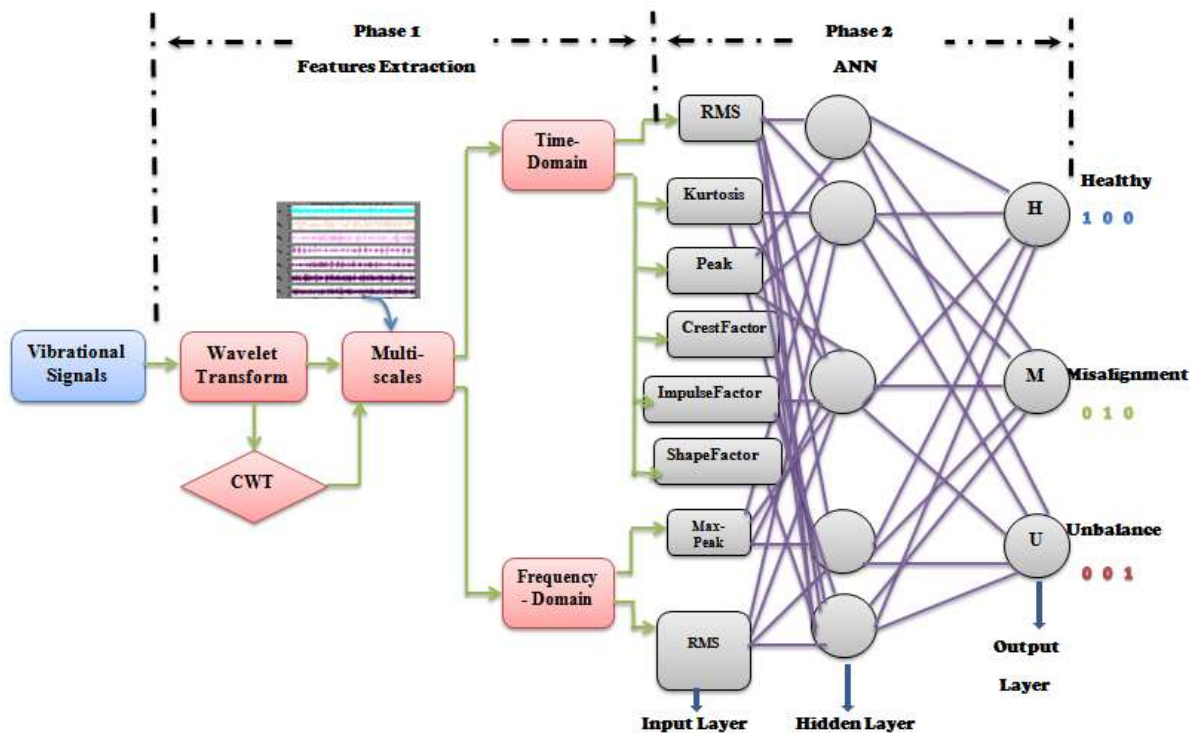


Figure 7. The overall processes of the combined wavelet-ANN.

The process of ANN is divided into two stages. The training stage in which the MLP NN is operating to modifying the connection weights and biases to perform the desired optimization. In this stage, the Back Propagation is used to modify the weights. In this process, a MSE of 10E-8, and a maximum iteration (epochs) of 1000 were selected. Hence, the training stage has to stop by reaching the selected features. Then the ANN process would move to the second stage which is known as the test stage. In the test stage, the system is trained and ready to use for perform the desired classification task.

The used data which were extracted from the three signal conditions (Healthy, Misalignment, and Unbalance) in the forms of time and frequency domain features were 38400 and 19200 each respectively. The collected data were divided into 10 samples. The 10 samples of time and frequency domains consist of 3840 and 1920 each respectively. Using wavelet analysis, 20 values were calculated and extracted from each sample for the each 8 parameters which are represented 6 parameters for the time-domain and 2 parameters for the frequency-domain.

The total calculated and extracted values of all the parameters for three different conditions were 600 values which there were 200 values for each condition. The 600 values were divided equally between the two stages of training and testing as illustrated in Table 1.

Table 1. Applied values to training and testing stages in ANN.

No of Values	Stage	1	2	3	4	5	6	7	8	9	10	11
300	Training	Kur	RM	Pe	Crest	Impul	Shane	Max	RMS			
300	Testing									Healthy 1 0 0 Misalignment 0 1 0 Unbalance 0 0 1		

All the extracted features were normalized to be between 0 and 1 in order to select the best values to make improvement to the performance of wavelet.

The results show that the training process has been reached the desired MSE stopping criteria; i.e MSE less than 10E-8 after 303 epochs as illustrated in Figure 8 (a). The ANN classification MSE for the three different conditions is demonstrated in Figure 8 (b).

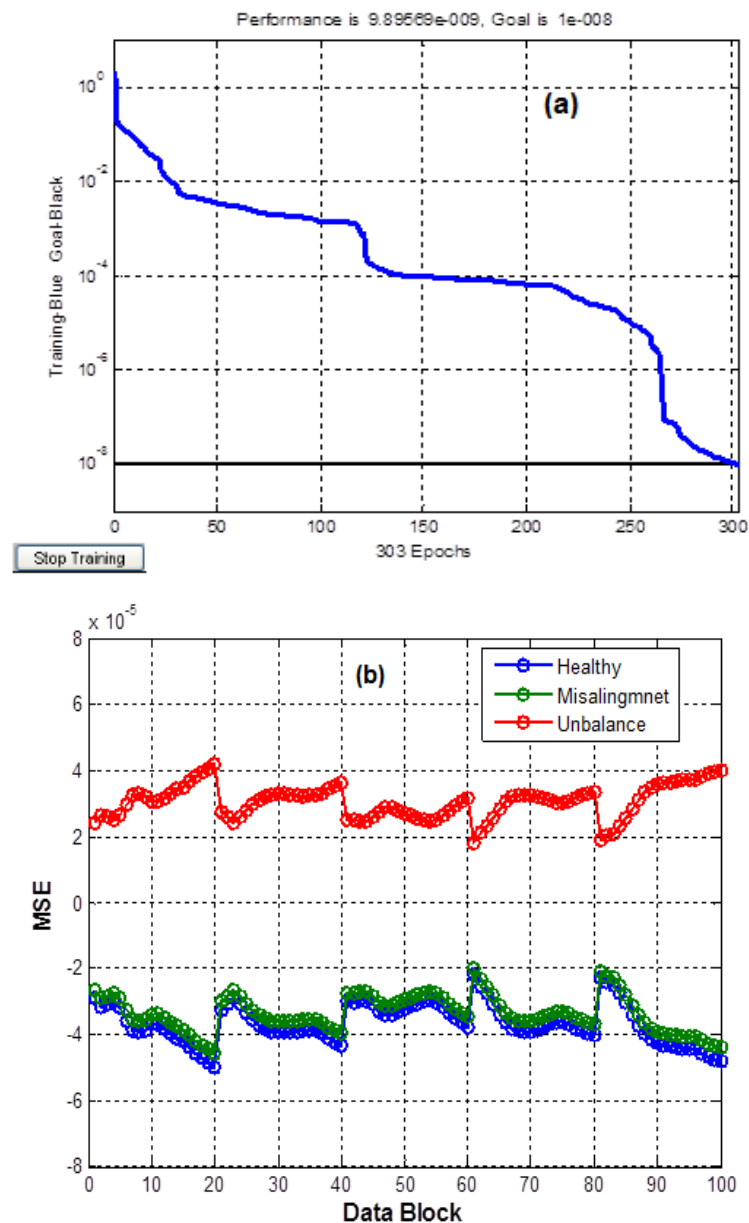


Figure 8. (a) The ANN training process, (b) The ANN classification MSE.

The results show an effectiveness of using wavelet analysis in fault feature extraction for the MLP ANN classifier. Hence, this is referring to the good effectiveness of the combination between the wavelet and ANN for the Misalignment and Unbalance faults detection and classification.

5. Conclusions

According to the extracted results, the following conclusions are given:

- The wavelet analysis was selected to be as extractor for the features as it provided multi resolution that both features of time and frequency domains are provided. The advantage of wavelet analysis was based on the scaling and shifting of the wavelet through the vibrational signal.

- The wavelet analysis with the selected wavelet-function (Morlet) has provided more similarity with the extracted fault pulses shape and has shown a strong ability and effectiveness in extracting the time and frequency features.
- All the extracted features were normalized to be between 0 and 1 in order to select the best values to make improvement to the performance of wavelet.
- Using the learning algorithm based on Back Propagation (BP) provided optimized wavelet that works to minimize the Mean Square Error (MSE) between the real network outputs and the desired target values.
- ANN classifier has shown effectiveness to be as automatic classifier to diagnose the faults of misalignment and unbalance that the training process has been reached the desired MSE stopping criteria; i.e. MSE less than $10E-8$ after 303 epochs with 100% success rate.

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The City on Screen: A Methodological Approach for Cinematic City Studies

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Abstract

The city has a strong memory and it never forget its own experience. The past, the present and the future of the city can be read through its streets, buildings, sounds, myths, rhythms and stories. More importantly, if the city is portrayed through a camera, it becomes as fictional and designable as films. At this stage, there is no difference between watching a film and seeing a city. Also, cinema itself turns into a paradigm that belongs to the city. The parallelism between the city and film is like an inevitable destiny, so much so that they constitute and develop each other. Accordingly, those who attempt to understand the notion of the city should consult with films and vice versa; hence, this paper deals with the question of how the city is cinematized, and this question involves another question: how does the cinematic imagination fictionalize itself in the city?

Key Words: The City, Cinema, Society, Reflection, Methodology.

Introduction

How does cinema differ from literature, music, painting or theatre? Why do most theorists attempt to analyze social forms such as community, culture, ideology, religion and urban experience by means of film? More importantly, why do we look at the city in films? I suppose that, as Orhan Pamuk, a Nobelist Turkish author, writes: “...just as we learn about our lives from others, so, too, do we let others shape our understanding of the city in which we live” (2006, 8). Similarly, inhabitants who become blind or remain unresponsive under the influence of intensive seeing and excessive images of the city inevitably need an external eye to see where to look and how to realize what they see.

A monologue from the Turkish film, *The Letter / Mektup* (1997), summarizes why we need an external eye: “Once upon a time, the swamp was being seen from a distance, but, now, it is not being seen, because we are under the swamp”. This aphorism indicates the importance of cinema in cities that are full of swamp-like visual images and messages. The cinema, as an external eye, stimulates an off-voice, activates fiction and logical cohesion, clarifies how modern cities turn into rubbish tips due to complex relations, unlimited consumption, endless mobility, uncontrolled population explosion, thoughtless demolition – rebuilding and increasing pollution. Cinema portrays the city by elaborating on its hazy environment and reducing its excessive and unnecessary intensity.

If it is accepted that spatial and temporal practices in the city are non-neutral (Harvey 1992, 239), it may be claimed that: The audio-visual intensity in the city creates a different kind of blindness and desensitisation. Meanwhile, films have a shocking and awakening effect. Tarkovsky (1987, 106) defines the stimulating and evocative notion of films as “an impression of the truth, a glimpse of the truth permitted to us in our blindness”. Since films have a multisensory orbit (Mullarkey 2009), they are preferably dealt with by researchers who want to analyze social structures and experiences of the city.

In order to investigate today’s society, one must listen to the confessions of the products of its film industries. They are all blabbing a rude secret, without really wanting to. In the endless sequence of films, a limited number of typical themes recur again and again; they reveal how society wants to see itself (Kracauer 1995, 294).

Namely, thinking about films is to think about society and the city; therefore, those who try to solve the puzzle of the city and society should look for some clues on screen. All films either imply or explicitly articulate the hope and disappointment, struggle and deadlock, peace and conflict, harmony and contrast, solidarity and enmity in urban life. “Hence when we talk about film, we talk about society and vice versa” (Diken and Laustsen 2007, 13).

Undoubtedly, films have their own language and form; moreover, they add new emotions, colours and sounds to the city while portraying it. “The designed world of the cinematic city thus refracts the designed world of the living city, and often adds its own signatures” (Orr 2003, 284). In other words, for instance, a French film constructs French pleasures, and Paris becomes the city of light (Kracauer 2004, 140). Similarly, Berlin is identified with “the city of tempo and work” (ibid, 187) in the hands of cinema. Manhattan, which is a cinematic space and stage, is (re)constructed by Woody Allen (1979). Ultimately, film directors work on cities as if they are city planners. Some films are based entirely on city life. “Two of the best known films, often compared with each other, are Walter Ruttmann’s *Berlin: Symphony of a Great City* (1927) and Dziga Vertov’s *The Man with the Movie Camera* (1929). Both use the ‘day in life of a great city’ structure. Both attempt to capture a dynamic of traffic, machines, work, and leisure” (Donald 1995, 86). Especially, “Vertov’s film should be seen neither as a record nor a portrait but, following the precepts of formalism, as an analysis

which makes our normal perceptions of the city strange by laying bare the device of cinema” (ibid, 87).

The City and Cinema

“When the real world is transformed into an image and images become real” (Agamben 2007, 78), urban analysis turns into an image analysis. Cinema is, literally, a feast of images. In other words, as Morin (2005, 169 cited in Diken and Laustsen 2007, 1) describes it, “the cinema is like a kind of great archetypal womb that contains in embryogenetic potential all visions of the world”. Nevertheless, cinema is *not* like a bulldozer that excavates everything without considering whether it is usable or not. Cinema does not fill itself needlessly with non-functional and amorphous images; on the contrary, it channels human perception into critical points by simplifying and purifying the visual bustle in the city. Even if cinema sometimes produces surreal environments, impossible loves and exaggerated lives, this implies that “it [cinema] is far richer than life itself” (Tarkovsky 1987, 112). Films, deliberately or unintentionally, gain insight into the invisible world by making it concrete. The power of cinema stems from its transparent nature.

Urban and social realities take it [the screen] as a model to follow. Films’ impact factor on the city is so immeasurable that the city, as Clarke (1997, 2) states, turns into a cinematographic value. “Ours is a society increasingly concerned with signs, images and sign systems, an increasingly ‘cinematized’ society” (Diken and Laustsen 2007, 5). Cinema is, phenomenologically and contextually, awash with experiences and realities of socio-urban life; perhaps for this reason, Odin (2008, 430) claims that there is no difference between watching a film and walking on a city street. Inhabitants are, just like actors on screen, actors of their own cities. They are surrounded by a fictional environment that is indeed constituted by a scenario. “Thus the city repeats its life, identical, shifting up and down on its empty chessboard. The inhabitants repeat the same scenes, with the actors changed; they repeat the same speeches with variously combined accents; they open alternate mouths in identical yawns” (Calvino 1974, 65). Nonetheless, films are never the product of an individual (Kracauer 2004, 5), but of a society. “Films, then, are like dreams, not individual dreams, but rather collective ones” (Gilloch 2007, 131).

The interrelation between the city and film is explained well by Mennel (2008, 15): “Films reflect such urban patterns in how they code neighborhoods as rich or poor or landscapes as urban or rural. They reflect class in costume and setting, and in whether characters are positioned inside elaborate domestic spaces or outside in the urban public space”. Spatiality, particularly the city, may shift the quality of interpersonal communication, because the city is an open communication system (Clark 1996, 118). The system is so embedded that it is hard to separate the city itself from the people who live in it. It may be for this reason that Shakespeare in *Coriolanus* (Act III) says: the people are the city. People are at least products of the city, because the city infuses its own culture into them. The city creates its own generation and assimilates it. The city that “is culturally produced as an integral part of material culture” (Borden et al. 2000) produces culture, “daily life, social activities, and personal rituals” (ibid.). It passes along its own language, accent, taste, belief, interests, fears and desire to its inhabitants.

According to Besnard (2008, 246), the city is the main character of films; concordantly, living in a city means acting in a film. In other words, “cinema is life and life is cinema: they tell the truth of each other” (Diken and Laustsen 2007, 2). Life needs cinema and its fictional capability because, as Rancière (2004, 38) states, “the real must be fictionalized in order to be thought”. Besides, most of filmmakers tend to focus only on one street, one person, one story,

etc. in order to capture a city (Sauvaget 2008, 442); however, this may run the risk of not recognizing the city in its entirety; similarly, theories and concepts on architecture may not be adequate to expose the urban area that is surrounded by social forms, relations and networks.

The city cannot be reduced to either form or representation: it is neither a collection of object- buildings nor the equivalent of models, schemas, drawings, and projections of all kinds. ... The city is not the product of planners and architects (Borden et al. 2000, 5).

Therefore, in parallel with social scientists rather than film critics, it is necessary to focus not only on the technical parameters such as editing, camera movements, light and sound, but also on the narrative dimension of cinema such as stories and lives inside streets and buildings, in order to comprehend all corners and details of the city. In other words, it is necessary to place an emphasis on other academic disciplines such as sociology, history, architecture, literature, etc., in order to analyze the city that is, as Lefebvre (1996, 95) describes, a collective being and social organism. Although social life in the city is visible and observable, it is also multilayered and complicated. As a result of this dilemma, the city itself is both a golden opportunity and a slippery slope for researches; that is why I suggest looking at the city through *the projector*. Films have a power to simplify the city in such a way that they reflect it as being whole (Kracauer 1995, 328).

A Methodological Discussion: Reflection or Representation?

The issue of how cinema interprets and reproduces the world has been discussed ever since moving images were first captured. The debate continues over whether the images that were produced by the Lumière brothers' *cinématographie* were 'representation' or 'reflection'. What is cinema, indeed? More importantly, how does it manage the world and the city? Is it illusion or real? Is it fantasia or confrontation? Formalism or realism? Is it secret or revelation? These questions concerning cinema are not only based on an epistemological issue that stimulates the sense of wonder, they are also crucial questions that have the potential to reveal ontological relationships between eye and image, perception and visibility, conscious and things, capturing and presenting, etc.

Films, although they may touch upon urban experiences deliberately or not, do not create a new city; instead, they create a possibility to create a city image for spectators who are losing their senses because of over-saturation. This is the possibility of awareness for them about where and whom they [spectators] are. The camera is able to reveal some blurred or concealed images and stories by zooming in / out, pausing, rewinding and renewing. This is the superiority of the camera in comparison with the eye. This superiority is crucial, because "our visual environment is crowded with multiple objects; however, at any one time we tend to be aware only of a limited part of this array of information" (James 1890, cited in Findlay and Gilchrist 2003, 35).

Formalist doctrine claims that films have the (cap)ability to form and deform objects and events by using their formative features. Formalist film theories postulate that there is always a gap or distance between films and social reality; accordingly, that gap (or distance) can and must be filled by symbols, icons, metaphors and references. In other words, phenomenology and semiology have crucial importance in terms of realizing social reality through film. Formalism *formulates* social life and cinema separately. According to this formula, films do not reflect the city or society 'as it is'. Thus formalist film criticism focuses mostly on films themselves, rather than on society or urban experience. Aesthetic taste, enthusiasm and passion are seen as more important and functional than knowledge, consciousness and inference. As a result of this, the formalist perspective approaches the cinema mainly from the aspect of *aesthetic beauty* and *secrets inside the form*. However;

Films are particularly inclusive because their ‘visible hieroglyphs’ supplement the testimony of their stories proper. And permeating the stories and the visuals, the ‘unseen dynamics of human relations’ are more or less characteristic of the inner life of the nation from which the films emerge (Kracauer 2004, 7).

Cinema (or the camera itself) is, as Godard (1972) defines it, like an *X-ray machine*. The machine monitors both explicit realities, which can easily be seen at a single glance, and implicit realities, that hide beneath the images. Tabor (2000, 122-38) also defines cinema as an X-ray machine, and also a *mirror, keyhole, gun and shield*. Indeed, cinema plays a crucial role that manages temporality and spatiality on behalf of spectators who are desensitized, due to monotony and routinized activities. For this reason, although “films are the mirror of the prevailing society” (Kracauer 1995, 291), it is hard to define the cinematic power on eye and vision only with *the mirror* metaphor. “Cinema is much more than reflections of a reality” (Diken and Laustsen 2007, 129); that is why, analyzing the city through the projector requires more functional method than *flâneur*. As the city changes continuously and rapidly, fictional cinema, which is a delicate sense that captures urban and social experience, can be the best way to appreciate changes in the city.

The film camera is uniquely able to penetrate and capture in myriad and novel ways our environment, in particular, the human built-environment composing the cityscape. Film not only presents and reveals what it has recorded with unprecedented felicity and fidelity, but also allows for the critical recomposition and reconfiguration of this visual material (Gilloch 2007, 116).

Cinema is a running memory of the city; therefore, cinema may be *a gun and shield* that manipulate or edit the future. This may be one of impacts of cinematic narration; however, this is not enough to describe other features of cinema. Consequently, I suggest the metaphor *keyhole* as the best descriptive metaphor for cinema. A keyhole does not only show; it also symbolizes an irrepressible curiosity and emotion about others’ lives. Looking into a mirror can mostly be through necessity, while looking through a keyhole indicates a fantasy, passion, desire as well as knowledge about what is happening behind the door. A keyhole has deeper symbolic meanings than a mirror in a world that is full of closed doors. The mirror is an introverted object that reproduces what it reflects, whereas the keyhole is an extroverted object that focuses on others. Each part of the body is active in front of the mirror; however, only the eye has authority over a keyhole. A mirror may be deceptive. As Calvino (1974, 54) explains, “at times the mirror increases a thing’s value, at times denies it. Not everything that seems valuable above the mirror maintains its force when mirrored”; however, the frame that is seen around the keyhole is the most naked framing of people or stories, because they do not know they are being watched by someone else.

There are some significant differences between a camera and an eye that looks through a keyhole: a film camera, which is a go-between (Odin 2008, 437), knows exactly when it needs to capture and what to look for. “This refers to the camera’s unprecedented and unrivalled capacity for capturing the ‘real’, for revealing and recording ‘physical reality’, which Kracauer aptly terms ‘camera reality’” (Gilloch 2007, 127). It finds, selects, captures and portrays the most valuable frame (Kracauer 2004, 7); also, it records physical reality as a camera reality (Kracauer 1960, 28). In other words, cinema is not only a passive spectator that has transparency and mirroring features (Kracauer 2004), but also an active (f)actor that has the ability to act upon reality (ibid.) and restore what it sees. The camera reality is so real that it gives shape to the social relations in the city. In due course, camera reality replaces physical

reality; besides, it constitutes a “cinematized society” (Diken and Laustsen 2007, 5). For this reason, it can be claimed that “no form of art is as tied to reality as cinema” (Hamilton 2011).

How to Analyze the City through the Projector

Theory-based writing is seen a main part of researches in social sciences, because theory itself determines methodology and affects findings of researches. As Urry (1995: 1) claims, “the understanding of place cannot be undertaken without major theoretical endeavor”. Is a theoretical perspective enough to comprehend the city or films? In contrast with Urry’s thought, according to Amin and Thrift (2002, 9 cited in Tonkiss 2005, 115), the phenomenology of the city “cannot be known through theory and cognition alone”, because there may be some implicit images and symbols in details of the city. The visual associations, which require focusing on film technique itself rather than what it says, can be captured along with an eagle eye and attentive perception. “Film captures and reproduces for us that which normally eludes everyday perception: things at speed, things in motion, things too small, too large or too slow” (Gilloch 2007, 120-121). “Owing to diverse camera activities, cutting and many special devices, films are able, and therefore obliged, to scan the whole visible world” (Kracauer 2004, 6). Therefore, as mentioned before, those who attempt to analyze the city can and must benefit from camera movements, lighting, montage, effects, colors, sounds, scenario, characters, filmic location, narrative and storytelling. All these technical aspect of the cinema should not be separated from theoretical framework in urban and social studies. The reflective power of camera can be understood as long as the theory and the technique are brought together in an analysis.

More obviously, analyzing a city is not only to gain insight into its streets, buildings and walls, it is also to comprehend a society that consists of various components, e.g. different languages, cultures, traditions, lifestyles, etc. Since, “places without stories are unthinkable” (Price 2004); it is necessary to consider on stories in order to gain insights into the city, which is a social practice rather than a framework (Castells 1978, 93); Each critical object and subject that are seen on screen should to be analyzed.

To study the city scale there are more than two inputs to confront. The life forms ... the inorganic and immobile existences architectural elements; buildings, statues, bridges, and geographical elements; earth, water, valleys, hills – and the inorganic and mobile existences – automobiles, planes, choppers, ships, all kinds of machines, commercial signs, vending machines, traffic lights – The relations between different formations have to be taken into consideration (Hacıömeroğlu 2008, 32).

Architecture in this context is significant in terms of being a filmic element. It refers not only to a visual, but a cultural variance. It is probably one of the most remarkable parameters of film analysis because, as Pallasmaa (2001) mentions, both architecture and cinema describe living places. Both of them produce detailed visions of life, and define the essence and dimensions of space and place. In addition to these, “cinema constructs spaces in the mind, creates mind-spaces, thus reflecting the inherent ephemeral architecture of the human mind, thought and emotion. The mental task of buildings and cities is to structure our being-in-the-world and to articulate the surface between the experiencing self and the world” (ibid, 17). On the other hand, to observe the buildings, streets, places of entertainment and squares of cities may not be enough to understand the cities themselves. There are some other determining factors of cities, such as sounds, traditions, value judgments, movement and mobility. These crystallized components, which are indeed never neutral, reveal invisible phenomena that belong to the city. In other words, these non-neutral spatial practices are continuously decoded, as mentioned, by cinematography and theory.

Apart from these, *the rhythm* of the city is important in city analysis. What does rhythm of the city mean? The term rhythm can be dealt with within the scope of Henri Lefebvre and his book, *Rhythmanalysis: Space, Time and Everyday Life* (2008). According to him (ibid, 8), “everywhere where there is rhythm, there is measure, which is to say law, calculated and expected obligation, a project”. The rhythm is based on linear and cyclical repetitions (ibid.). Is it merely sound repetitions in streets? There are rhythms of stable buildings, walls, squares, ways, houses, cemeteries, etc. It is not only sounds but also light, smells and images. Briefly, the trace of the rhythm should be looked for in the world of senses. It should be noted at this point that the world of the senses plays a significant role in cinematic cities. All films, most of the time involuntarily, highlights a different sense in the city. Spatiality is experienced mostly by means of the senses; therefore, spectators have a tendency to realize, first of all, the sensual features of the cities they visit. Some cities are cities of the eye, while some have an unforgettable taste or musical harmony; whereas some cities are kept in mind through their smells. All these experiences indicate how the senses have critical importance for the city and society. Georg Simmel, who first realised the importance of the senses, placed emphasis on them by writing: “every sense delivers contributions characteristic of its individual nature to the construction of sociated existence” (Simmel 2000, 110). He classifies senses in accordance with their mechanism and function. Simmel, in his superficial but stimulating work, gives some crucial clues about the links between sensory analysis and urban studies for those who study this mutual affinity. In this sense, I suggest that his theory and senses themselves should be used and improved by researchers interested especially in film and urban studies.

Conclusion

Interestingly, spectators tend to be familiar with the city by means of a camera; furthermore, they like or dislike the city in the light of films, because cinema, as a city phenomenon, (re)visualizes and reproduces the city (Feigelson 2008, 284). The city is no longer independent of the influences of the cinema age. The camera captures the city as if it were an eye. However, eyes may lie about visible phenomena. But, it is necessary to remember that “films are never ‘just films’, lightweight fiction destined to amuse us and thus to distract us from the core problems and struggles of our social reality. Even when films lie, they tell the lie which dwells in the very heart of our social edifice (Žižek in Diken and Laustsen 2007); for this reason, “no medium has ever captured the city and the experience of urban modernity better than film. Indeed, the relationship between the city and the cinema, although less than a century old, is a strong and well established one. The images and sounds found in movies today routinely bring people the experience of distant cities they may never visit” (Alsayyad 2006, 1).

Cinema has so great an influence on social reality that “social reality sometimes appears as a fallout effect of cinematic virtualities; producing the uncanny impression that reality mirrors cinema and not the other way around” (Diken and Laustsen 2007, 1). This means that cinema is important, both as a replayable memory that portrays what has already been done, and as a predictor that designs the future [*as it would wish to find it*]. “It is as if the film implied a warning, for these screen figures anticipate what will happen in real life a few years later” (Kracauer 2004, 218). Hence film itself is undoubtedly seen as a case study for urban planners, technology designers, architects, sociologists, psychologists, pedagogues, linguists, etc. Cinema increases its impact factor with each passing day, because “what the screen postulated came true in life” (ibid, 118). Casetti (1999, 125) defines a key role of cinema as one of *social testimony*. Žižek (2007: xi) takes the concept a step further: According to him, “our societies themselves can only reproduce themselves through films”. This shows

that there is no alternative way to comprehend social reality, apart from through film. Paradoxically, “this is no doubt why cinema is disappearing: because it has passed into reality. Reality is disappearing at the hands of the cinema and cinema is disappearing at the hands of reality. A lethal transfusion in which each loses its specificity” (Baudrillard 2005, 124-5). The power of cinema is related to its informal nature: “film must reflect society whether it wants to or not” (Kracauer 1995, 292). This shows that every kind of film – mainstream or art, imaginative or realist, meaningless or didactic – has a different dimension that inevitably collects a different component of society.

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The Model of Local Identity Support and Value Addition of Public Sector Influencing Tourism Support in Lopburi Province

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Abstract

The purposes of this research are 1) to study the relationship between the local identity support, the local value addition of the public sector and the tourism support of Lopburi province, and 2) to study the form of local identity support and the local value addition of the public sector and the tourism support of Lopburi province. The results show that the samples had a very high level positive opinion about the local identity support; in particular, the identity of communication (X₄) had the highest mean, followed by the identity of culture (X₃), the identity of local product (X₂) and the identity of geography (X₁) respectively. With regard to the local value addition, the samples had a very positive level of opinion; in particular, the local art and culture support (X₆) had the highest mean, followed by the local product support (X₅). With regard to the tourism support of Lopburi province also, the samples had a high opinion; in particular, the development of the tourist attractions and activities of

Lopburi province according to the demand of people of every age had the highest mean. The hypothesis results show that the samples with different genders, education level, occupation, and the times visiting Lopburi have the same opinion about the local identity support, the local value addition of the public sector; while the samples with different domicile have the same opinion about the local identity support, but the difference of opinion about the local value addition of the public sector with the statistical significance is at the level of .05. The multiple regression analysis shows that the components of the local identity support, the local value addition of the public sector influencing the tourism support of Lopburi province in total with that statistical significance is at the level of .01 ($F = 586.465$ and $p\text{-value} = .000$); by that the components of the local identity support, the local value addition of the public sector of Lopburi province can predict the tourism support of Lopburi province at 88.30% (Adjust $R = .883$), which can be demonstrated in the form of equation; Equation predicting the tourism support of Lopburi province = $.594 X_4 + .230 X_3 + .179 X_5 + .176 X_1 - .164 X_2$

Keywords: The local identity, The local value addition, The tourism support, Lopburi province, MRA

1. Introduction

The eleventh National Economic and Social Development Plan had described the direction and strategy of the country's development in improving the economic structure to sustainably grow with quality; in developing the economics of the country to be strong by using wisdom, science and technology, and creativity; and in focusing on the production which is environment friendly and cooperating with other countries in various regions to gain access to external changing current. At the same time, the 6 effective capitals of the country should also be extended; the human capital, the social capital, the physical capital, the financial capital, the capital of nature and environment, and the cultural capital. All these capitals should be integrated, along with the strength of Thai identity to adjust to the economic structure and based on strong innovation to connect to the world and regional economics (Office of the Nation Economic and Social Development Board, 2011). The country's development based on the national culture of each region is sometimes lost or neglected. The identity of art and culture, and the local wisdom are the important cultural capitals which is not studied yet. However, the analysis is to inspect the value of identity and the direction to develop the local product to have more added value which is appropriate to the context of society and culture of each local region (Jantajorn et al., 2009). Lopburi province, with roots of cultural heritage, has a tourist attraction for its historical and eco-friendly natural environment, a strong community and a unique local identity of various ethnic items. Thus, it is necessary to create a product to transmit and to publicize the local identity via that product; it is also a way to increase the value of the local community. From the sales report, it is found that the sales value of the local product in 2010 – 2012 is not growing because the product still lacked creativity in highlighting the local identity in increasing the value of the product. This issue corresponds with the problem of people. First it is about the occupation and income. Secondly, it is caused from the slowing of the domestic economics, including the problem of politics and society affecting the general tourism. Most tourists would drop by and continue to other provinces, which is called "sight-seeing" during the high season is on November to February. In addition, the tourism of Lopburi province lacked active public-relation and the integration in supporting and developing tourism and its organization. The world tourist organization also said that the trend of tourism in the future will focus on the quality, the tourists will take interest in the

knowledge, experience, the study of life style and culture (Strategy Development of Lopburi Province, 2013). The researcher was interested in studying the local identity support, the local value addition of the public sector and the tourism support of Lopburi province from the view of people. The results will be used, including the integration of other sectors, in developing the performance of Lopburi province in the future.

Purposes of the Research

1. To study the local identity support of the public sector influencing tourism support of Lopburi province.
2. To study the local value addition of the public sector influencing tourism support of Lopburi province.
3. To study the relationship between the local identity support, the local value addition of the public sector and the tourism support of Lopburi province.
4. To study the form of local identity support and the local value addition of the public sector and the tourism support of Lopburi province.

Hypothesis of the Research

1. The samples with different demographic profiles have different opinion about the local identity support of the public sector.
2. The samples with different demographic profiles have different opinion about the local value addition of the public sector.
3. The local identity support and the local value addition of the public sector have a positive relationship with the tourism support of Lopburi province.
4. The form of the local identity support and the local value addition of the public sector have and capacity to predict the tourism support of Lopburi province.

2. Literature Survey

2.1 Concept about the Local Identity Support

Praichanjit (2009) said that the local identity means being an individual in the community and to identify himself and the relationship with other people. The group identity is formed from knowing one another. In the past, understanding the processes of communication for generating identity with a broad dimension was limited due to the lack of public relation for advertisement through the television and radio. Until 1990, there was no important change in the aspect of communication. Even if there was the advertisement via the television, the long-term identity creation was not effective. Thus, the identity would come from looking into themselves and the views from other people at that time (Kath, 2000; as cited in Maharatsamee, 2002). Additionally, Wongrujirawanit (2012) described the application of the cultural identity to create a product or service; this is the process to select the outstanding point of the culture to generate the identity through the product or service. The consumer will never realize the local culture, if it is not transmitted in the story connecting to the consumers. Suwan (1995) pointed out that the successful development of the tourist attractions consists of many factors; the desire of the tourists, the capacity of the tourist, the convenience in traveling and reaching, and the limit of the attractions of both physical and ecological factors. Jansomwong, (2001, as cited in Feungfusakul, 2003) said that the importance of creating a cultural identity will lead to the difference and the variety of ethnics. The difference should be admitted, not rejected. In addition, to admit the cultural identity of each group develops a smooth process to participate in the group.

2.2 Concept about the Local Value Addition

Tipchatyotin (2010) explained about “added value” that it is inborn with the product and service. Sometimes, the added value can draw the attention of the consumers and make a decision to buy that product or service. Nowadays, any business is not only about selling the product or service, but also as a part of added value. According to Sereerat et al. (1998), the added value creation for the consumers consisted of 4 dimensions; 1) product value, 2) service value, 3) personal value, and 4) image value. Pinkaew (2011) also suggested that the growth of industry created the cultural creativity, the variety of the culture of the country, plus with the support from the public sector to create the business opportunity. The entrepreneur might select to invest in some business which can apply the cultural capital such as the story and content of Thai culture in increasing the added value of products and services or to differentiate the products or services for being the selling point.

2.3 Concept about the Tourism Support

Ministry of Tourism and Sports (2011) announced in the government gazette that the fourth strategy in the National Tourism Development Plan (2012 – 2016), reating the reliability and supporting the tourism. This strategy focuses on making the tourists realize and understand the good image of the country, which may encourage the foreigner to visit Thailand. Kasetsiri (2003) stated that tourism is important for four factors; 1) tourism is a way to spend free time in finding happiness and entertainment, 2) tourism provides the opportunity to learn new experiences during the travels, 3) a well-managed tourism is the tool in conserving the environment, 4) tourism is the natural mechanism creating interaction between the tourist and the local community. Ivanovic (2008) and Cooper, Fletcher, Fyall and Wanhill (2008) said that culture and cultural heritage are the forms for developing the tourism. The tourist attractions and activities have an important role in drawing attention of the tourists. The cultural tourism will focus on travelling to gain experience and participate in the hardly-seen life style (Goeldener & Ritchie, 2009). This is relevant to Ximba (2009) who presented that cultural tourism development should emphasize on the understanding of the culture and the participation in the cultural experience of wisdom, beauty, psychology, and feeling under the concept of sustainable development of tourism. This will concentrate on developing the cultural tourist attractions to be the learning centers and creating impression and the participation from the community to conserve and to exhibit and transfer the art and culture; this is the method to conserve the local identity. The concept of the sustainable development of tourism was developed by Swarbrooke (1999) in order to emphasize the balance between tourism development leading to the economic growth and the conservation of the cultural heritage. This concept is based on the definition of sustainable cultural tourism; that tourism can generate prosperity to the economics, but it should not destroy the environments and should not cause any disadvantages to the cultural value and social structure of those tourist attractions. This concept also focuses on the appropriate planning and management in order to avoid the problems from the changing of culture or the life style of the community including the economics and politics.

3. Research Methodology

This research used quantitative method as a technique to analyze demographic profile, the local identity support, the local value addition and the tourism support of Lopburi province. In addition, the researcher conducted the in-depth interview of the relevant in the public sector; 1) Thanakhom Jongjira, Governor of Lopburi province; 2) Suchat Lainamngern, former Member of Parliament of Lopburi province; 3) Thani Maleehorm, Sheriff of Ampheo Baan Mhee of Lopburi province; 4) Manasnij Khampheerayot, officer at Cultural Center of Lopburi

province; and 5) Thawatchai Jaisuk, Head of Information Technology for Community Development, for gathering the direction to set the policy about the local identity support, the local value addition and the tourism support, and integrating with the secondary data to creating the research questionnaire. The samples in this research are the populations in Lopburi province, the visitors, and the travelers totaling to 389. Statistics used in this research included frequency, percentage, analysis of mean and standard deviation, Pearson Correlation, Multiple Regression Analysis

4. Research Results

4.1 Demographic profiles

There are 389 samples; 56.80% are female, and 43.20% are male. 49.10% are the Bachelor's Degree holders, followed by 36.50% less than Bachelor's Degree, and 14.40% are higher than Bachelor's Degree. 28.00% are traders, followed by 19.50% are employees, 16.50% are governmental officers, 11.60% are company officers, 9.80% work in other jobs, 9.50% work for state enterprises, and 5.10% are agriculturists. 39.60% are domiciles of Lopburi province, followed by 24.40% come from the Northern region, 14.40% come from the Central region, 6.40% come from the East region, 5.70% come from the Southern region, 5.40% come from the West region, and 4.10% come from the North-East region. 39.07% had visited Lopburi province for the first time, followed by 38.30% who visit Lopburi province once a year, 19.02% visit Lopburi province twice a year, 2.06% visit Lopburi province four times a year, and 1.55% visit Lopburi province three times a year. As the ranking of famous tourist attractions, 29.90% are Palace of King Narai the Great, followed by 21.20% are Pra Pang Sam Yot, 18.00% are Pasakcholsit Dam, 17.60% are Prakal Shrine, and 13.30% are Lai Temple. As the ranking of famous tradition, 34.90% are Monkey Festival, followed by 25.40% are Chak Pra Sri Ariya at Lai Temple, 17.50% are King Narai the Great Festival, 12.00% are The tradition of Rice Stir Fry Tip, and 10.20% are Sunflower Festival. As the ranking of famous local product, 33.00% are white clay filler, followed by 20.70% are Mudmee Silk, 16.20% are sugar-boiled banana puree, 16.00% are salted egg covered with white clay filler, and 14.10% are sandstone sculpture respectively.

4.2 The Analysis of the Local Identity Support

With regard to the local identity support, the samples have a high positive opinion about the local identity support with a mean score of 3.53 (S.D. = .931). In particular, the identity of communication has the highest means 3.81 (S.D. = .949), followed by the identity of culture with mean score of 3.70 (S.D. = .991), the identity of local product with mean score of 3.35 (S.D. = 1.176), and the identity of geography with mean score of 3.32 (S.D. = 1.221) respectively (see table1).

Table 1 Mean and standard deviation of the local identity support in total and in particular

the local identity support	\bar{X}	S.D.	Translation	Ranking
the identity of geography (X_1)	3.32	1.221	Agree	4
the identity of local product (X_2)	3.35	1.176	Agree	3
the identity of culture (X_3)	3.70	.991	Highly agree	2
the identity of communication (X_4)	3.81	.949	Highly agree	1
Total	3.53	.931	Highly agree	

4.3 The Analysis of the Local Value Addition

With regard to the local value addition, the samples have a high positive opinion about the local value addition with mean score of 3.80 (S.D. = .825). In particular, the local art and culture support had the highest mean 3.84 (S.D. = .824), followed by the local product support with mean score of 3.74 (S.D. = .996) respectively (see table 2).

Table 2 Mean and standard deviation of the local value addition in total and in particular

the local value addition	\bar{X}	S.D.	Translation	Ranking
the local product support (X_5)	3.74	.996	Highly agree	2
the local art and culture support (X_6)	3.84	.824	Highly agree	1
Total	3.80	.825	Highly agree	

4.4 The Analysis of the Tourism Support of Lopburi Province

With regard to the tourism support of Lopburi province, the samples have the degree of high agreement with a mean score of 3.72 (S.D. = 1.092). In particular, the development of the tourist attractions and activities of Lopburi province according to the demand of people in every age had the highest mean 3.95 (S.D. = 1.214), followed by the route to connecting the story about life style, wisdom, art and culture, and nature of each important place for supporting the cultural tourism and the world heritage with mean score of 3.83 (S.D. = 1.042), the local image and identity are always publicized via the medias with mean score of 3.57 (S.D. = 1.239), and the activities, the festivals and the customs are developed in every year to impress the people for re-visiting with mean score of 3.53 (S.D. = 1.259) respectively (see table 3).

Table 3 Mean and standard deviation of the tourism support of Lopburi province in total and in particular

the tourism support of Lopburi province	\bar{X}	S.D.	Translation	Ranking
1. the local image and identity are always publicized via the medias	3.57	1.239	Highly agree	3
2. the activities, the festivals and the customs are developed in every year to impress the people for re-visiting	3.53	1.259	Highly agree	4
3. the route to connecting the story about life style, wisdom, art and culture, and nature of each important place for supporting the cultural tourism and the world heritage	3.83	1.042	Highly agree	2
4. the development of the tourist attractions and activities of Lopburi province according to the demand of people in every age	3.95	1.214	Highly agree	1
Total	3.72	1.092	Highly agree	

4.5 The Analysis of the Relationship between the Local Identity Support, the Local Value Addition of the Public Sector and the Tourism Support of Lopburi Province

With regard to the relationship between the local identity support, the local value addition of the public sector and the tourism support of Lopburi province, the relationship of the variables is as followed;

1. The inside correlation between the components of the local identity support and the local value addition of the public sector have the relationship with the statistical significance at

the level of .01, by that the correlation is between .323 and .812. The highest inside correlation is the relationship between the identity of communication (X₄) and the local product support(X₅).

2. The inside correlation between the components of the local identity support, the local value addition of the public sector and the tourism support of Lopburi province have the relationship with the statistical significance at the level of .01, by that the correlation is between .519 and .909. The highest inside correlation is the relationship between the identity of communication (X₄) and tourism support of Lopburi province (Y) (see table 4).

Table 4 Correlation between the Components of the Local Identity Support, the Local Value Addition of the Public Sector and the Tourism Support of Lopburi Province

Variables	X ₁	X ₂	X ₃	X ₄	X ₅	X ₆	Y
X ₁	1	.792**	.565**	.530**	.408**	.323**	.565**
X ₂		1	.582**	.571**	.393**	.474**	.519**
X ₃			1	.736**	.671**	.495**	.792**
X ₄				1	.812**	.738**	.909**
X ₅					1	.702**	.824**
X ₆						1	.666**
Y							1

** The statistical significance at the level of .01

4.6 The Analysis of the Form of Local Identity Support and the Local Value Addition of the Public Sector and the Tourism Support of Lopburi Province

The multiple regression analysis shows that the components of the local identity support, the local value addition of the public sector influencing the tourism support of Lopburi province in total with the statistical significance at the level of .01 (F = 586.465 and p-value = .000); by that the components of the local identity support, the local value addition of the public sector of Lopburi province can predict the tourism support of Lopburi province at 88.30% (Adjust R = .883), and the rest 11.7% is the result from other variables out of the area of this research; which can be demonstrated in the form of equation; Equation predicting the tourism support of Lopburi province = .594 X₄ + .230 X₃ + .179 X₅ + .176 X₁ – .164 X₂. This means the identity of communication (X₄) has the positive relationship in high level with the tourism support of Lopburi province; and the identity of culture (X₃), the local product support (X₅), and the identity of geography (X₁) has the positive relationship in low level with the tourism support of Lopburi province. On the other hand, the identity of local product (X₂) has the negative relationship in low level with the tourism support of Lopburi province. (see table 5).

Table 5 The Important Weight of the Components of the Local Identity Support and the Local Value Addition of the Public Sector Influencing the Tourism Support of Lopburi Province

Variables	the Tourism Support of Lopburi Province				p
	b	SE	β	t	
constant	-.575	.083		-6.927**	.000
the identity of communication (X ₄)	.684	.040	.594	16.901**	.000
the identity of culture (X ₃)	.254	.031	.230	8.269**	.000
the local product support (X ₅)	.196	.034	.179	5.758**	.000

the identity of geography (X_1)	.158	.026	.176	6.051**	.000
the identity of local product (X_2)	-.152	.028	-.164	-5.369**	.000
$R^2 =$.884			F =	586.465**
Adjust $R^2 =$.883	SE =	.374	p =	.000

** The statistical significance at the level of .01

5. Discussion

From the research results about the local identity support, the local value addition of the public sector, and the tourism support of Lopburi province, the following interesting issues can be discussed:

The samples' total opinion about the local identity support was at a high level, which is relevant to the concept of Hetch et al. (2009) about the communication theory of identity –CTI that the identity is the bridge between the individual and societal, while the communication is the connection, which means the identity is the code describing the membership of the community. In addition, the identity consists of the dimension of emotion, and the dimension of soul, which is the source of inspiration and hope in life. In general, an individual will have the stable core identity, but the identity is changeable or indefinite. This is also relevant to Wongrujirawanit (2012) who described the application of the cultural identity to create the product or service; this is the process to select the unique feature of the culture to generate the identity of the product or service. The consumer will never realize the local culture, if it is not transmitted in the story connecting to the consumers. Moreover, Ministry of Culture and the Faculty of Architecture of Silpakorn University (2006) also mentioned that the form and the method to manage the cultural scenery and the cultural heritage are 1) study and research, 2) maintenance, 3) preservation, 4) restoration, 5) reconstruction, 6) re-habitation, and 7) adaptation. Additionally, Jansomwong, (2001, as cited in Feungfusakul, 2003) said that the importance of creating the cultural identity will lead to the difference and the variety of ethnics. The difference should be admitted, not rejected.

The samples' high level of opinion about the local value addition, is relevant to the research of Jantajorn, Boonchai, Thitpaad et al. (2009) about the identity value of local art and culture and the application to the local product for increasing the economic value and the cultural tourism. He found that the direction in increasing the economic value and the support to be a cultural tourist attraction, there should be a development in the product form to be outstanding and up-to-date with various benefits, trying to reduce the cost but not to destroy the value and quality of the product, support the local people to have the occupation for transmitting the wisdom. This is also relevant to the study of Yodthong, Chutikorntaweessin et al. (2012) that the sustainable success of the community enterprise comes from the ability of the community to apply the value of the cultural identity, local wisdom, plus the skills and professionalism to produce the beautiful hand-made product and to create the added value to that local product.

The samples' high level of opinion about the tourism support of Lopburi province is relevant to the study of Thammapramual and Tehkhanmak (2010) presenting the concept about the tourism marketing that it focuses on determining the demand and the necessity of the tourism market in order to satisfy of the target tourists. The satisfaction of the target tourist means the good feeling of the tourists after buying that product or service of tourism. Thus, the entrepreneur of the tourist business should try to impress the tourists to make them re-visit that place. Moreover, this is relevant to the 4 principles in sustainable management of tourism; 1) the operation of tourism business in the limited capability of nature, community, custom,

tradition, and life style of local people, 2) the recognition of the impact of the tourist activities on the community, custom, tradition, and life style of local people, which is the local identity, 3) the participation of the local host and the visitors about the activities, and 4) the connection of the necessity to the alternative development of the community and set the working plan of the economics, the existence of the community, and the sustainable conservation of environments and local culture (Tourism Authority of Thailand, 2009).

6. Recommendations

1. A communication strategy of Lopburi province should be operated, bringing integration among the public, private, and people sector in order to be an operational direction of every concerned organization.

2. A continual communication strategy should be determined with the use of modern technology to reach every group of people.

3. An active communication plan should be set up for publicizing the story of the beginning of the product coming from the local wisdom and the identity of each ethnic group to showing to other regions, especially the Northern, the Central and the East.

4. There should be an in-depth study about the behavior of the new tourists and travelers who visit Lopburi for the first time to encourage them to visit again.

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