

# **International Journal of Operations Management**

**Volume No. 12**

**Issue No. 1**

**January - April 2024**



**ENRICHED PUBLICATIONS PVT. LTD**

**S-9, IInd FLOOR, MLU POCKET,  
MANISH ABHINAV PLAZA-II, ABOVE FEDERAL BANK,  
PLOT NO-5, SECTOR-5, DWARKA, NEW DELHI, INDIA-110075,  
PHONE: - + (91)-(11)-47026006**

# **International Journal of Operations Management**

## **Aims and Scope**

The aim of the International Journal of Operation Management is to provide academically robust papers, research, critical reviews and opinions on the organisational, social and management issues associated with significant information-based technologies. It is designed to be read by academics, scholars, advanced students, reflective practitioners, and those seeking an update on current experience and future prospects in relation to contemporary information and communications technology themes.

# **International Journal of Operations Management**

**Managing Editor  
Mr. Amit Prasad**

**Editorial Board Member**

<p><b>Dr. Paresh Vallabhdas Virparia</b> Professor &amp; Director Department of Computer Science</p>	<p><b>Satyender kumar Singh</b> Asst. Prof. &amp; HOD Internet Institute for Special Education, lucknow</p>
--	---

# International Journal of Operations Management

(Volume No. 12, Issue No. 1, January - April 2024)

## Contents

Sr. No	Article/ Autors	Pg No
01	Trust Management Issues In Cloud Computing Environment <i>- Prasann Pradhan, and Dr. Vikas Kumar</i>	01-14
02	Sustainability And Management Of Tourism Resources: Opportunities And Challenges <i>-Pramendra Singh</i>	15-29
03	Impact of Service Quality on Satisfaction: A study of Library services in Management Institution <i>- Anamika Shrivastava, Shailja Bhakar</i>	30-37
04	Implications Of Business Ethics For Quality Management <i>- Mr. Rajarshi Singh, Ms. Saba Javed</i>	38-45
05	The Growth Due To Innovations In The Hotel Industry And The Effect On The Sustainability Of The Industry <i>- Digvijay Singh Rana</i>	46-52

---

---

# Trust Management Issues In Cloud Computing Environment

**Prasann Pradhan<sup>1</sup> and Dr. Vikas Kumar<sup>2</sup>**

<sup>1</sup>Research Scholar, Shri Venkateshwara University,  
NH-24, Rajabpur Gajraula - 244236, Distt:- J.P. Nagar, U.P, India, Email:  
[prasannpradhan@yahoo.com](mailto:prasannpradhan@yahoo.com)

<sup>2</sup>Asia-Pacific Institute of Management,  
3&4 Institutional Area, Jasola, Sarita Vihar, New Delhi – 110025, Email:  
[prof.vikaskumar@gmail.com](mailto:prof.vikaskumar@gmail.com)

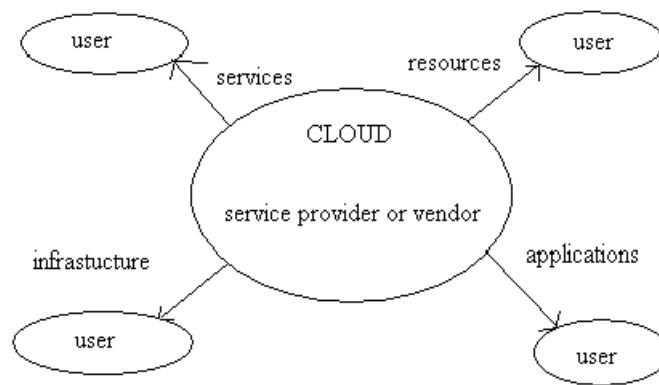
## **ABSTRACT**

*Cloud computing paradigm offers the various computing services via SaaS, IaaS, PaaS service models. However, the services are being offered and managed online with minimal physical intervention and hence the management of trust between the user and the vendor becomes an important aspect for large scale proliferation of the cloud services. The present work discusses the various issues and challenges in managing the trust between the cloud provider and the customers. The issues include the governance, compliance, availability, risks, policies processes and security etc. The need of the trust and its implications has been highlighted from a multi-vendor and multi-user perspective. Challenges for the sensitive data have also been discussed from a trusted security perspective along with the future implications.*

**Keywords—Cloud Computing, Trust Management, Governance, Compliance.**

## **1. INTRODUCTION**

Cloud Computing is a utility based computing paradigm in which the dynamically scalable resources are provided as services to the users on a pay per usage model. It offers the delivery of computing as a “service” rather than a product, whereby shared resources, software, and information are provided to the users via over the internet based media. It allows the users to access these services from the internet without knowledge of, expertise in, or control over the technology that supports them. Users access these services as they require and pay for only what they use in a monthly or a rental subscription.



**Figure 1. Cloud Computing Environment**

As shown in Figure 1, cloud vendors or service providers offer various types of services to the users. Cloud services may be applications, hardware or software resources, operating systems, storage, etc. The cloud service provider or vendor, provides services to the user's demand basis.. These services are measurable and accountable in the sense that how much the consumer consumes and how much the provider provides.

### 1.1 The NIST Definition of Cloud Computing

According to NIST (National Institute of Standards and Technology) [1], Cloud computing is a model for enabling ubiquitous, convenient, on-demand network access to a shared pool of configurable computing resources (e.g., networks, servers, storage, applications, and services) that can be rapidly provisioned and released with minimal management effort or service provider interaction. As per the NIST definitions, following are the essential characteristics for the cloud computing services.

- (i) On-demand self service
- (ii) Broad network access
- (iii) Resource Pooling
- (iv) Rapid Elasticity
- (v) Measured service

### 1.2 Deployment Models

We have the following deployment models in the cloud computing environment.

#### (i) Private Cloud

A private cloud infrastructure operated solely for a single organization, whether managed internally or by a third-party and hosted internally or externally. It may be owned, managed, and operated by the organization, a third party, or some combination of them, and it may exist on or off premises.

---

## (ii) Public Cloud

Public cloud is the type of deployment model, in which the service provider providing resources, such as applications and storage facilities to the general public over the Internet. Public cloud services may be free or offered on a pay-per-usage model. It may be owned, managed, and operated by a business, academic, or government organization, or some combination of them.

## (iii) Community Cloud

Community cloud deployment model shares infrastructure between several organizations from a specific community with common concerns (security requirements, compliance, jurisdiction, etc.), whether managed internally or by a third-party and hosted internally or externally. The costs are spread over fewer users than a public cloud (but more than a private cloud), so only some of the benefits of cloud computing are realized. It may be owned, managed, and operated by one or more of the organizations in the community, a third party, or some combination of them, and it may exist on or off premises.

## (iv) Hybrid Cloud

Hybrid cloud is a composition of two or more clouds (private, community, or public) that remain unique entities but are bound together by standardized or proprietary technology that enables data and application portability (e.g., Cloud bursting for load balancing between clouds), offering the benefits of multiple deployment models. It can also be defined as multiple cloud systems that are connected in a way that allows programs and data to be moved easily from one deployment system to another.

### **1.3 Current Service Offerings in Cloud**

In cloud computing where services are provided by a service provider to the consumer, the following are the major service offerings in cloud computing environment.

#### (i) Infrastructure as a Service (IaaS)

IaaS, deliver computer infrastructure – typically a platform virtualization environment – as a service, along with raw storage and networking. Rather than purchasing servers, software, data-center space or network equipment, clients instead buy those resources as a fully outsourced service [2]. Cloud providers typically bill such services on a utility computing basis; the amount of resources consumed (and therefore the cost) will typically reflect the level of activity.

The consumer does not require to manage or to control the underlying cloud infrastructure but has control over operating systems, storage, and deployed applications. Zenith Info Tech and Netmagic Solutions are two examples of Indian Companies offering the IaaS services.

---

## **(ii) Software as a Service (SaaS)**

SaaS deliver software as a service over the Internet, eliminating the need to install and run the application on the customer's own computers and simplifying maintenance and support. The applications can be accessible from various client devices through either a thin client interface, such as a web browser (e.g., web-based email), or a program interface.

The consumer does not require to manage or to control the underlying cloud infrastructure including network, servers, operating systems, storage, or even individual application capabilities, with the possible exception of limited user-specific application configuration settings. Wipro Technologies , Infosys Technoloies and Synage are the Indian companies offering SaaS services.

## **(iii) Platform as a Service (PaaS)**

PaaS, deliver a computing platform as a service, often consuming cloud infrastructure and sustaining cloud applications. It facilitates deployment of applications without the cost and complexity of buying and managing the underlying hardware and software layers. Platforms let developers write certain applications using programming languages, libraries, services, and tools supported by the provider that can run in the cloud, or even use services provided by the cloud.

The consumer does not require to manage or to control the underlying cloud infrastructure including network, servers, operating systems, or storage, but has control over the deployed applications and possibly configuration settings for the application-hosting environment. Wolf Frameworks and the Orangescape the Indian companies offering PaaS solutions.

## **1.4 End-User Access to Cloud**

Following are the certain examples of end user can access to cloud computing services through internet.

- You Tube is widespread used as a medium for sharing and watching online videos through websites, mobile devices, blogs, and email. You Tube allows people to easily upload and share video clips on the You Tube website. It was started in February 2005 and launched in Dec. 2005.
- Zimbra Desktop is a free open source email and calendar client which runs on any Windows, Apple, or Linux desktop computer .It provide software for email and collaboration, including email, group calendar, contacts, instant messaging, file storage, and web document management and it can be deployed on-premises or as a hosted email solution and imposes no limit on the size of email storage.



- 
- Facebook is a leading free access social networking website and its company Facebook, Inc., located in the heart of silicon valley. It was formerly called TheFacebook. This is the most popular free social networking site on internet.
  - DimDim Colloboration this free service lets anyone can be communicate using rich media in real time. It does not require user to install software on their computers in order to attend a web meeting. User can start or join meetings using only a few mouse clicks. It is available as open source software in cloud computing.
  -

## **2. Need For Trust Management**

Considering the online nature of the cloud computing paradigm, the need for the trust management is inherent in the cloud computing paradigm. Thus, it becomes necessary to understand the trust and the trust management.

### **2.1 Trust and Trust management**

What “Trust” means? Trust means an act of faith, confidence, truth ness, and reliance in something that's expected to behave or deliver as promised. Trust revolves around 'assurance' and confidence that people, data, entities, information or processes will function or behave in expected ways. It's a belief in the competence and expertise of others, such that you feel you can reasonably rely on them to care for your valuable assets. Trust is often described as the subjective belief of someone in the character, ability, strength, reliability, honesty or truth of someone or something [3] [4]. The concept of trust implies on the parties involves in transaction in cloud computing environment can be expressed as like an one individual A, is considered to trust on another individual B, when the individual A believes that individual B will behave exactly as expected. Many definitions of trust exist within the computing environment and social science.

According to Gambetta [5][6] which defines, “trust is the subjective probability by which an individual A, expects that another individual B, performs a given action on which its welfare depends”. Mayer et al. [7], said that “trust refers to the willingness of a party to be vulnerable to the actions of another party based on the expectations that the other will perform a particular action important to the trustor, irrespective of the ability to monitor or control that other party”

According to Mc Knight et al. [8] defined trust to an individual beliefs about the extent to which a target is likely to behave in a way that is 'benevolent, competent, honest, and predictable in a situation'. Since, different researchers may defined trust differently in their words, one may defined as honesty, others

---

may defined in terms of probability, believes, confidence, security, expectations, and so on. For Managing and maintaining a trust between the parties involved in electronic transactions over internet, a need for Trust Management is required in cloud computing. Even if different disciplines and researchers look at trust from different angles, it is possible to identify some common key factors that are required for the need for trust management.

- Trust management is requires to meet the customer or users expectations, vendor or provider expectations, organization expectations.
- Trust management is requires only when the environment uncertain and risky.
- Trust management is requires based on which certain decisions are made in business organizations.
- Trust is built between the parties using prior knowledge and past transactions experiences.
- Trust is a subjective notion based on opinion and values of an individual.
- Trust management required updatable changes with time, new knowledge and experience will have overriding influence over the old ones.
- Trust is context-dependent.

## **2.2 Background of Trust**

The trust and reputation have their origin in the social sciences that study the nature and behavior of human societies. Trust has been studied by researchers in diverse fields such as psychology, sociology, and economics. Psychologists study trust as a mental attitude and focus on what happens in a person's mind when he trusts or distrusts someone. Sociologists approach to trust is as a social relationship between people .Social context of trust has been commonly employed in multi agent systems and social networks .The similarity between the multi agent system and a social network are exploited in these works as agents and people behave in a similar fashion interacting with, gathering information from and modeling each other for developing trust on each other. Economists perceive trust in terms of utility.

Researchers in computing environments can take benefits from all of these studies as they give important information towards human behavior under various circumstances and different conditions. The role of trust and reputation in open, public distributed systems like e-commerce, peer to peer networks, grid computing, semantic web, web services, and mobile networks have been studied by many researchers.

We are here for finding the role of trust in cloud computing environment.

---

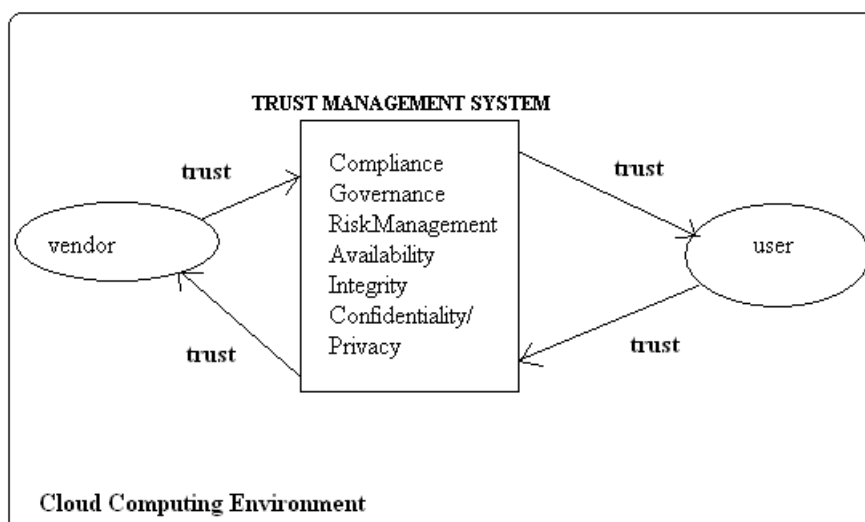
## 2.3 Types of Trust

We broadly categorize the types of trust in a cloud computing environment as follows.

- Trust may be human to human for e.g. Relationship and Friendship
- Machine to Machine for e.g. handshake protocols negotiated within certain protocols.
- Human to machine for e.g. when a consumer reviews a digital signature advisory notice on a website.
- Machine to Human for e.g., when a system relies on user input and instructions without extensive verification. At a deeper level, trust might be regarded as a consequence of progress towards security or privacy objectives.

## 2.4 Trust Requirements for Trust Management Systems

The Trust Management System in a cloud computing environment has been depicted in Figure 2. The trust requirements such as compliance, governance, etc. are analyzed in the trust management systems for the basis of trust level between the user and the vendor or the service provider. The level of trust, vendor expects from the particular user in a cloud computing environment and vice versa becomes very much important. Trust is established between the user and the vendors or service providers based on prior dealings or past experience transactions in a cloud computing environment based on that trust and past transactions build a trustworthy relationship between them. The level of trust between them is managed and controlled by a trust management system in a cloud computing environment. Lack of trust between any of them results in migrating users to the next vendor or service providers which gives a decrease in business profits. Since we have to require a trust management system in a cloud computing environment.



**Figure 2. Trust Management System in cloud computing environment.**

---

Trust in cloud computing is more complex than in traditional IT scenario where the information owner owns his own computer [9]. For creating a trusted cloud computing environment, the enterprises have the following sets of requirements (which are shown above in figure 2.) to fulfill.

### **(i) Compliance**

Conformance with required regulatory, legal, and general industry requirements e.g., governing the management and sometimes physical location of information and can comply with some industry standards and rules e.g. ISO (International Standard Organization), PCIDSS (Payment Card Industry Data Security Standard). Then implement these requirements whether legal, industry-wide, or contractual, in management processes and in code to ensure both enforcement and demonstration of that enforcement. It also include monitor how requirements change, especially as they become more cloud specific.

- Cloud vendors and users (customers) are required to comply with well established laws that are applicable for different jurisdictional areas regarding their data storage, security and privacy issues.
- Parties should be required to comply with laws that will be applicable in a equally balance form. So, that both parties involved in it, may get right justifications for their problems.

### **(ii) Governance**

Governance is evolved as a new cloud management tools that provide greater functionality and transparency between the cloud provider and the customer. Governance in cloud computing means to govern properly such as monitoring and reporting cloud operations including trust related rules, policies and their enforcement. Make accountabilities explicit for information-related process and educate staff on self service and effective use of cloud services. It describe who can take what actions with what information, and when, under what circumstances, using what methods.

- For proper governance requires, a proper legal framework is need to be establish. So, that fair and lawful processing may be done between the parties involved in it.
- Governance also needs to train and educate the staffs, so that proper control and monitor the cloud operations.
- It also requires in cloud computing is to accept new rules and polices for better controlling the cloud operations.
- It should also clearly assigns the role and responsibilities of the staff and if require adapt or create new methods for it.
- It also requires that adapted policies and rules should be update with time, technology and law.

---

### **(iii) Risk Management**

Risk management in cloud computing environment means the risk may be a direct threats (e.g., intrusion, hacking), business interruption (e.g., when an enterprise's own systems or the networked systems of business partners are unavailable) or some kind of the financial, reputational, and legal repercussion of information loss or theft or it may be a technological change or unfamiliarity with cloud computing.

- To manage and to deal that risk is involve in cloud adapters must carefully assess the performance and viability of vendors.
- Cloud adapters need to carefully read terms and conditions before adapt any cloud vendor services and discloses his business secrets to them. A great degree of risk is involved in it.
- Risk management is increased by varying factors such as technology change, unfamiliarity in cloud computing and uncertainties it introduces, etc.

### **(iv) Availability**

Availability in cloud computing environment is refers to the requested service or system being accessible when ever a demand from an authorized party. Availability of resources is endangered if the requested server or service is spoofed, penetrated or suspended and can't operate as expected.

Cloud provider must include strong methods for resiliency and recovery which can include seamless rollovers and warm systems ready to go live in the comprehensive system failure. Maintaining availability, however, is complicated by the proliferation of resources, users, and access methods including mobile devices.

Cloud providers also ensure that the cloud solutions provide adequate scalability and performance.

- Effective methods are employ for hardware failures, protect against software failures
- Service response time modeling will require for greater the availability of resources.
- Update applications and operating systems regularly or periodically with no or very less in downtime consumption
- New techniques should use for resource provisioning overhead. Resource provisioning overhead is the time between issuing an HTTP request and receiving the HTTP response.
- Resources must be always accessible even on the occasions where there is a network failure or a whole data center has gone offline.

---

### **(v) Integrity**

In cloud computing environment, the users data is stored on remote machines which is operate by various service providers, the users have very little control over their data processing and storage. Because this data is unencrypted form, there is a more chance that service providers or malicious users could disclose or destruct or replays or delays or copies it. Cloud provider must employ new data encryption techniques, access control and methods to ensure the completeness of transactions under network or system failure or malicious users attacks. Whenever possible, embed and employ rules for access and use into sensitive data sets. Take special attention to security and transparency in a multi-tenant environment. The following points describe how integrity issue is helpful in trust building for their users.

- Cloud computing vendors should provide assurances on data backup to an offsite location and maintain a resilient incident response model to ensure business continuity for their customers [10].
- Integrity means in cloud computing that cloud vendors must guaranteeing their users that only authorized users can access the information and applications.
- Cloud vendors should provide specific assurances to their users (clients) regarding their data storage, backups and recovery plans of their data in case of disasters like network traffic or earthquake, etc. Cloud vendors should provide visible security certification or clear mechanism about this to their users.
- Customers or users should also have some kind of mechanism for performing integrity checks on their own data.
- Cloud vendors should adapt new encryptions techniques for satisfying their users to their data security and assure that the user's stored data won't be corrupted.
- Cloud vendors will also requires adapting some methods for integrity controls and assures the users the original data should be returned when a backup is restored.

### **(vi) Confidentiality / Privacy**

Confidentiality / Privacy refers in cloud computing as protection of users personal or confidential data and information. The cloud model has been criticised by privacy advocates for the greater ease in which the companies hosting the cloud services control, thus, can monitor at will, lawfully or unlawfully, the communication and data stored between the user and the host company. Cloud computing places privacy concerns basically, because the service provider at any point in time, may limiting information access to authorized parties requires strong identity management , key and password controls,

---

physical and logical authentication and strong controls over the movement of data between systems. Ensure physical segmentation of data where required. Also take a lifecycle approach to data management, including the timely destruction of data.

- To protect data confidentiality and privacy, the cloud vendor prevent certain attacks and give users the ability to assess whether the necessary mechanisms are in place, instead of simply trusting the cloud provider.
- According to Zissis et al.(2011), confidentiality refers to only authorized parties or systems having the ability to access protected data and Privacy is the desire of person to control the disclosure of personal information.
- Lack of strong authentication can lead to unauthorized access to users account on a cloud, leading to breach in privacy.

Organizations that are shifted towards cloud computing model, they must satisfy these trust issues which are discussed above. There is a need for specific actions will be taken for both technological and organizational point of view, so that together they comprise a comprehensive solution to trustworthy cloud deployment.

### **3. CLOUD COMPUTING AND SENSITIVE DATA**

The important trust issue in cloud computing is data level security, and sensitive data is the domain of the enterprise or business organizations, not the cloud computing provider or vendor. Security will need to move to the data level so that enterprises can be sure their data is protected where ever it goes. It can also force encryption of certain types of data, and permit only authorized users to access the data.

Security plays a crucial role in building up trust. Since a third party is involved in cloud computing to stores your data, you don't know what's going on with it. It's easy to worry about the security risks of a cloud solution, but let's not overlook the inherent security benefits, as well.

Where and how to apply security is core to delivering security for the cloud. Security itself can be delivered from within the cloud. Elements such as Event and Log Management, Identity Management, End Point Protection and Application Security are increasingly delivered as cloud security services. Cloud security can be delivered as part of the cloud service and also as specific components added in to enhance security. Depending on your cloud provider it may be that a combination of both of these approaches is necessary.

---

Cloud computing offers to change the way we use computing with the promise of significant economic and efficiency benefits. The speed of adoption depends on how trust in new cloud models can be established. Trust needs to be achieved, especially when data is stored in new ways and in new locations especially by third parties, including for example different countries. There is requirement for trust that some specific actions needs to be taken in this environment such as.

- Cloud consumers will expect cloud providers to secure their data in the cloud and the data should be readily accessible when needed and protected from unauthorized viewing and changes. If consumers are not confident about security the growth of establishing trust will be slowed.
- Cloud provider will assure their users about data secrecy and privacy.

#### **4. CHALLENGES FOR FUTURE GENERATION SERVICES**

With the evolution of cloud computing platforms, a large number of cloud computing services are being launched by different vendors. However, with the high expected growth in the future, the management of the trust is going to be more and more complicated. In this scenario, two most important challenges issues are the design of the service level agreements and the management of large number of entities to take care of the user-vendor trust.

##### **(a) Service Level Agreements**

The SLA is a formal commitment between the user (consumer) and the vendor (provider) in cloud computing environment. Since, in this environment the physical interaction between the user and the vendor is likely to be very minimum. So, that SLA is the only legal agreement between the cloud vendor and the cloud user, which makes it a as a one main aspects toward trust building in this environment. Meeting SLA requirements from users and vendors point of view is require a detail research over this SLA contract for trust establishment. SLA is one of the future perspectives of trust in cloud computing environment.

##### **(b) Identity Management**

Identity and trust are concepts that lie at the basis of our existence and have been exercised through physical recognition and face to face communication. When transformation to digital world, it is important to understand how the mechanism of trust and identification will be maintain and manage. Identity management is commonly referred to as the set of processes and tools that serve to establish the identity of a user for e.g. enroll an employee, customer, contractor, student etc. in a system [11]. Trust and identity will affect the human business transactions and economic activities in digital environment. A long deep analysis is required in this area from next generation research perspective.



---

## 5. CONCLUSION

Cloud computing brings new revolution in the field of online access and the computing services. These services may be of any type like: software, hardware, security, infrastructure, so on, however the management of trust between the user and vendor is very much important for the success of the cloud computing environment, Various issues of the trust management have been discussed in the present work. This will help in providing a basic assurance to users regarding the security and privacy of their online data, and the issues will also help the vendors to build the trust and confidence among users. Trust between both the parties is essential for the success of this paradigm. The present work is an attempt to provide an overview of the challenges in trust management and ways to address these challenges in securing and maintaining trust in cloud computing.

## 6. REFERENCES

1. P. Mell and T. Grance (2011), "The NIST definition of Cloud Computing", Computer Security Division, Information Technology Laboratory, National Institute of Standards and Technology, Gaithersburg, Special Publication, pp. 100-145.
2. J. W. Rittinghouse and J. F. Ransome (2010), *Cloud Computing, Implementation, Management and Security*, CRC Press.
3. A Gutscher (2007), "A Trust Model for an Open Decentralized Reputation System", in *IFIP International Federation for Information Processing, Trust Management, Vol. 238*, pp. 285-300.
4. T. Grandison and M. Sloman (2000), "A survey of trust in internet application", *IEEE Communications Surveys & Tutorials 3, Vol. 4*.
5. D. Gambetta (1990), "Trust: Making and Breaking Cooperative Relations", Basil Blackwell.
6. J. M. Such, A. Espinosa, A. Garci-Fornes and V. Botti (2011), "Partial Identities as foundation for trust and reputation", *Engineering Applications of Artificial Intelligence*, Elsevier Ltd., pp.1-9.
7. R. C. Mayer, J. H. Davis and F. D. Schoorman (1995), "An integrative model of organizational trust", *Academy of Management Review, Vol. 2*, pp. 709-734.
8. D. H. McKnight and N.L. Chervany (2006), "What is trust? A Conceptual Analysis and an Interdisciplinary Model", *the Sixth America's Conference on Information Systems, Long Beach, CA*, pp. 827-833
9. F. J. Krautheim, D. S. Pathak and A. T. Sherman (2010), "Introducing the Trusted Virtual Environment Module: A New Mechanism for Rooting Trust in Cloud Computing", *TRUST 2010, LNCS, Vol. 6101*, pp. 211-227.
10. R. Chakraborty, S. Ramireddy, T. S. Raghu and H. R. Rao (2010), "The Information Assurances Practices of Cloud Computing Vendors", *Cyber Security, IEEE Computer Society*, pp. 29-37.
11. P. D. Hert (2008), "Identity management of e-ID, privacy and security in Europe. A human rights view", *Information Security and Technical Report, Elsevier Ltd., Vol. 13*, pp.71-75.
12. A. Samba (2012), "Logical Data Models for Cloud Computing Architectures", *Cloud Computing, IEEE Computer Society*, pp. 19-26.
13. B. Grobauer, T. Walloschek and E. Stocker (2011), "Understanding Cloud Computing Vulnerabilities", *Cloud Computing, IEEE Computer and Reliability Societies*, pp. 50-57.

- 
14. S. S. Yau and Ho. G. An (2011), "Software Engineering Meets Services and Cloud Computing", *Cover Feature, IEEE Computer Society*, pp. 47-53.
  15. H. Takabi, J.B. D. Joshi and G. Ahn (2010), "Security and Privacy Challenges in Cloud Computing", *Cloud Computing, IEEE Computer and Reliability Societies*, pp.24-30.
  16. K. Ferguson-Boucher (2011), "Cloud Computing: A Records and Information Management Perspective", *Basic Training, IEEE Computer and Reliability Societies*, pp. 63-65.
  17. F. Rocha, S. Abreu and M. Correia (2011), "The Final Frontier: Confidentiality and Privacy in Cloud", *Cover Feature, IEEE Computer Society*, pp.44-50.
  18. A. A. Nyre and M. G. Jaatun (2009), "Privacy in Semantic Cloud: What's Trust Got to Do with It?", *Cloud Com 2009, LNCS, Vol. 5931*, pp. 107-118.
  19. A. Josang, R. Ismail and C. Boyd (2007), "A survey of trust and reputation systems for online service provision", *Decision Support System 43, Vol. 2*, pp. 618-644.
  20. <http://smartdatacollective.com/joemckendrick/47533/nist-definition-cloud-computing-doesnt-go-far-enough>.
  21. L. Rasmusson and S. Jansson (1996), "Simulated social control for secure internet commerce", in *Proceedings of Workshop on New Security Paradigms (NSPW'96)*, ACM, New York, USA, pp. 18-25.
  22. A. Josang and J. Golbeck (2009), "Challenges for robust of trust and reputation systems", in *Proceedings of Fifth International Workshop on Security and Trust management (STM2009)*, Saint Malo, France, pp. 24–25.
  23. <http://csrc.nist.gov>.
  24. <http://www.netmagicsolutions.com>
  25. <http://www.zenithinfotech.com>.
  26. <http://www.wipro.com>
  27. <http://www.infosys.com>.
  28. <http://www.synage.com>
  29. <http://www.wolffframeworks.com>.
  30. <http://www.orangescape.com>.
  31. <http://www.ibm.com>

---

---

# Sustainability And Management Of Tourism Resources: Opportunities And Challenges

**Pramendra Singh<sup>1</sup>**

<sup>1</sup>Research Scholar,

School of Studies in Tourism and Travel Management,

Jiwaji University, Gwalior, MP

Mob: +91-8103393803

Email: pramendra58@gmail.com

## **ABSTRACT**

*Tourism is one of the largest service industries in the world, which is the amalgamation of different elements. Tourism is considered as a key factor in the economic development of any nation due to its immense capacity to generate economy and employment for the nation through different means. Tourism equally contributes in conserving environment through sustainable tourism which stimulates or motivates the sustainable use of environmental resources for tourism activities. Sustainable tourism emphasizes on utilizing the resources with minimum or less stress on the environment so that these resources could well be preserved and conserved for the future generations to fulfill their needs too. If planned and managed efficiently, tourism can become a driving force for the economic development of the people along with conservation of nature and environment. Different aspects of sustainable tourism studied and significant contributions highlighted through the study. The paper looks into the contribution of sustainable tourism in the sustainability of tourism resources and their management by identifying different opportunities and challenges to it. The study will be conducive in directing and helping the stakeholders of the tourism industry to manage all the tourism resources in sustainable manner.*

**Keywords—Tourism, Sustainable Tourism, Sustainability, Tourism Resources, Sustainable Management**

## **1. INTRODUCTION**

Tourism is one of the largest service industries in the world having its strong roots in almost all the countries in the world. Tourism has numerous benefits for the stakeholders in different ways. It benefits the society through socio-economic development, helps in conserving the nature so as the real beauty of nature could be showcased to the nature lover tourists and helps the nation to get recognition worldwide. It has many more benefits in multifarious ways. Tourism can be classified in a number of ways depending on the nature of visits, duration of visits and extent of visits made by the tourists. Sustainable tourism is an approach of tourism which aims at sustaining all the related resources for a long term so

---

that it could be well preserved, conserved and maintained for the next generations. All the resources are not meant to be consumed greedily or for one's own benefits or needs rather they are meant to be used in such a way that their optimum utilization is looked upon for the present generation and the prospect of being used by the future generations could well be ensured.

Tourism is one of the major driving forces for the economic development of the nations and regions. It has now become the major source of earning for many countries which are totally dependent on tourism for generating revenue and running livelihood for their people. The data collected and released by United Nations World Tourism Organization (UNWTO) for the year 2013 shows the same trend. As per the data released by UNWTO, Tourism has a contribution of 9% in Gross Domestic Production (GDP) of the world. The total International Tourism Receipts for 2013 was US\$ 1159 billion with annual growth rate 7.5% and the International Tourist Arrivals were 1087 million worldwide with an annual growth rate of 5.0% for the same year. Out of every 11 job created worldwide, one was created by the tourism industry.

As far as the statistics related to India is concerned, The Foreign Exchange Earning which India made from Tourism was 1,07,671 Crore Rupees with an annual growth rate of 14.0% and the Foreign Tourist Arrivals in India for 2013 were 6.97 million with an annual growth rate of 5.9%.

This statistics prove very handy as far as the role and contribution of tourism industry is concerned in economic development of the nations and their social upliftment through tourism. Tourism also helps in conserving the nature and natural resources through its different approaches like Sustainable tourism, Ecotourism, Responsible tourism, Community based tourism etc. Sustainable tourism is one of the types or approach of tourism which strives towards the sustainable development of tourism and it stimulates the sustainable use of all the resources for tourism.

Tourism sometimes brings negative impacts for the people and environment as evident in many cases which are results of unsystematic and unplanned tourism activities merely driven for the economic benefits. It is a very sensitive industry which deals with people, nature, environment and other fragile things which needs to be planned, managed and executed in a well manner and must have a participative approach. All stakeholders should be brought to the common platform and their interests must be safeguarded.

One of the first definitions of sustainable tourism is that of the UN World Tourism Organization (WTO) in 1988: "Tourism activities are sustainable when they grow so as to maintain a living in a tourist area

---

for an unlimited time, do not alter the environment (natural, social and artistic) and shall not restrict or inhibit the growth of other social and economic activities".

## **LITERATURE REVIEW**

Cevat Tosun (2000), "Following the popularisation of sustainable development as an environmental management concept by the publication of the World Commission on the Environment and Development's (WCED) & Our Common Future' in the late 1980s (WCED, 1987), a growing proportion of the tourism research literature has focused on the principles and practice of sustainable tourism development & the term sustainable tourism has come to represent and encompass a set of principles, policy prescriptions, and management methods' (Hunter, 1997)."

Definitions of sustainable development have two components: the meaning of development and the conditions necessary for sustainability (Miltin, 1992). Sustainable development is defined by the United Nations' World Commission on the Environment and Development (WCED) (1987) as a "development that meets the needs of the present without compromising the ability of future generations to meet their own need".

Butler (1993) tried to distinguished sustainable tourism development and sustainable tourism as "sustainable development in the context of tourism could be taken as: tourism which is developed and maintained in an area (community, environment) in such a manner and at such a scale that it remains viable over an indefinite period and does not degrade or alter the environment (human and physical) in which it exists to such a degree that it prohibits the successful development and well-being of other activities and processes. That is not the same as sustainable tourism, which may be thought of as tourism which is in a form which can maintain its viability in an area for an indefinite period of time.

United Nations World Tourism Organization (UNWTO) (2004), defines Sustainable tourism as "Sustainable tourism development guidelines and management practices are applicable to all forms of tourism in all types of destinations, including mass tourism and the various niche tourism segments. Sustainability principles refer to the environmental, economic, and socio-cultural aspects of tourism development, and a suitable balance must be established between these three dimensions to guarantee its long-term sustainability.

---

Thus, sustainable tourism should:

1. Make optimal use of environmental resources that constitute a key element in tourism development, maintaining essential ecological processes and helping to conserve natural heritage and biodiversity.
2. Respect the socio-cultural authenticity of host communities, conserve their built and living cultural heritage and traditional values, and contribute to inter-cultural understanding and tolerance.
3. Ensure viable, long-term economic operations, providing socio-economic benefits to all stakeholders that are fairly distributed, including stable employment and income-earning opportunities and social services to host communities, and contributing to poverty alleviation.

Sustainable tourism development requires the informed participation of all relevant stakeholders, as well as strong political leadership to ensure wide participation and consensus building. Achieving sustainable tourism is a continuous process and it requires constant monitoring of impacts, introducing the necessary preventive and/or corrective measures whenever necessary.

Sustainable tourism should also maintain a high level of tourist satisfaction and ensure a meaningful experience to the tourists, raising their awareness about sustainability issues and promoting sustainable tourism practices amongst them.”

United Nations Environment Programme (UNEP) gives a brief introduction about tourism and its impact on the society, economy and environment. UNEP has considered tourism as one of the most promising drivers of growth for the world economy and the reach of tourism to many people and areas was significantly realized. UNEP explains the importance of tourism as “tourism has the potential to contribute to environmental protection and poverty reduction by capitalizing on biodiversity assets; to increase public appreciation of the environment and to spread awareness of environmental problems bringing people into closer contact with nature and the environment. Because of their tourism potential, many natural areas are now legally protected. Finally, sustainable tourism businesses can be promoted as sustainable alternative livelihood opportunities in areas where current economic activities have detrimental effects on the host environment but where biodiversity and cultural assets could be a source of income. If efficiently planned and managed, tourism could become an ally and a supportive economic and political force for conservation”.

---

UNEP and UNWTO (2005), emphasized upon the inclusive participation of all the stakeholders in achieving the principles of sustainable tourism development and the need of strong political leadership to monitor its impacts and take corrective actions wherever necessary. They also mentioned that, “Sustainable tourism should also maintain a high level of tourist satisfaction and ensure a meaningful experience to the tourists, raising their awareness about sustainability issues and promoting sustainable tourism practices amongst them”.

United Nations Educational Scientific Cultural Organization (UNESCO) has defined Sustainable Tourism as “Tourism that respects both local people and the traveller, cultural heritage and the environment”. It further says 'it seeks to provide people with an exciting and educational holiday that is also of benefit to the people of the host community'. UNESCO proposed that all the forms of tourism should adopt the principles of sustainability.

International Council on Monuments and Sites (ICOMOS), defines Sustainable Tourism as “Sustainable tourism refers to a level of tourism activity that can be maintained over the long term because it results in a net benefit for the social, economic, natural and cultural environments of the area in which it takes place.

John Beech and Simon Chadwick, define sustainable tourism as “Sustainable Tourism is tourism that is economically, socio-culturally and environmentally sustainable. With Sustainable tourism, socio-cultural and environmental impacts are neither permanent nor irreversible”. In other terms they also defined sustainable tourism as “Tourism that has minimal impact on the environment and the culture of host community”.

## **EMERGENCE OF THE CONCEPT OF SUSTAINABILITY, SUSTAINABLE TOURISM AND SUSTAINABLE DEVELOPMENT**

The population has been increasing with tremendous pace and making the society more worried and perplexed about the ongoing situation which the nature and our environment has to face these days. The resources were being over exploited and were not being looked upon as the precious elements of survival for the human beings. This is the nature and environment, which have been providing shelter and means for the survival and existence for the human beings since the creation of this universe and the evolution of our society. Now the awareness about the concept and importance of Sustainability has been rising among the academicians, governments awaked society and other stakeholders. The efforts

---

are further being made to make it more prevailing among all the members in societies worldwide through different ways and approaches so that they could contribute in achieving this very concept of sustainability of environmental resources and nature.

Since 1980's there are several steps have been taken to understand the concept of sustainability and sustainable tourism. Various conferences, meetings, declarations, strategies and guidelines were conducted and the result of discussions emerged from these intellectual talks further helped in going into delve of the concept. There are some important and notable milestones achieved so far as contribution in understanding the concept of sustainability and sustainable tourism is concerned. Some of the key milestones are as follows:-

- **UN Conference on Human Environment, Stockholm (Sweden), 1972-**

This conference also known as Stockholm conference which is probably the first international conference devoted exclusively to environmental issues. It was attended by 113 states and representatives from 19 international organizations. The links between environment and development were articulated. Another result of the Stockholm Conference was the creation of the United Nations Environmental Program (UNEP) which has the mission “to provide leadership and encourage partnership in caring for the environment by inspiring, informing, and enabling nations and peoples to improve their quality of life without compromising that of future generations”

- **Mediterranean Action Plan, 1975-**

16 Mediterranean countries and the European Community adopted the Mediterranean Action Plan (MAP). The MAP was the first-ever plan adopted as a Regional Seas Programme under UNEP's umbrella. The main objectives of the MAP were to assist the Mediterranean countries to assess and control marine pollution, to formulate their national environment policies, to improve the ability of governments to identify better options for alternative patterns of development, and to optimize the choices for allocation of resources.

- **Manila Declaration on World Tourism, Manila (Philippines), 1980-**

It is the first Declaration on Tourism worldwide. Manila Declaration states “The satisfaction of tourism requirements must not be prejudicial to the social and economic interest of the population in tourist areas, to the environment or, above all, to natural resources which are the fundamental attraction of tourism, and historical and cultural sites”.



---

· **The World Commission on Environment and Development (WCED), 1983-**

The commission was convened by United Nations and chaired by Gro Harlem Brundtland, the then Prime Minister of Norway. It was convened to address the concern "about the accelerating deterioration of the human environment and natural resources and the consequences of that deterioration for economic and social development". In 1987, the Commission published the Brundtland Report, entitled 'Our Common Future'.

· **The Hague Declaration on Tourism, Hague (Netherlands), 1989-**

This declaration emphasized on the role of tourism in economic and social development. It emphasizes the necessity to formulate and apply policies 'to promote harmonious development of domestic and international tourism and leisure activities for the benefit of all those who participate in them'.

· **The United Nations Conference on Environment and Development (UNCED), Rio de Janeiro, Brazil, 1992-**

It is also known as Rio Earth Summit. It was attended by 114 heads of state, including 10,000 representatives from 178 countries and 1400 nongovernmental organizations represented by additional thousands. Sustainable development was the unifying principle for the entire Rio conference. The key outputs of the Conference were: The Rio Declaration, Agenda 21, and the Commission on Sustainable Development. Agenda 21 was meant for achieving sustainable development in almost any area on the surface of the earth. The Commission on Sustainable Development (CSD) was created to monitor and report on implementation of the Earth Summit agreements. It was agreed that a five year review of Earth Summit progress would be made in 1997 by the United Nations General Assembly meeting in special session. Further on the same principles of Rio Declaration, Rio+5, Rio+10 and Rio+20 summits were held.

· **Kyoto Conference on Climate change, Kyoto (Japan), 1997-**

This conference was oriented towards studying the impacts on climate due to the hazardous elements. Developed countries agreed on specific targets for cutting their emissions of greenhouse gases, resulting in a general framework, which became known as the Kyoto Protocol.

· **Tourism and Sustainable Development, 1999-**

The seventh session of the UN Commission on Sustainable Development (CSD-7) met at UN Headquarters in New York on 1 May and 27 July 1998, and from 19 to 30 April 1999.

CSD-7 gave special attention to some issues which also included concepts:

- 
- Tourism and economic development
  - Tourism and social development
  - Tourism and environmental protection

· **Aims for Sustainable Tourism, 2005-**

In 2005 the UN World Tourism Organization (UNWTO) and the United Nations Environment Programme (UNEP) combined their efforts to condense all aspects of the sustainability of tourism into a single publication: Making Tourism More Sustainable: a Guide for Policy Makers. It was jointly stated as “The two organizations wish to encourage all countries to ensure that their policies and actions for the development and management of tourism fully embrace the principles of sustainability”.

· **IUCN World Conservation Congress, Barcelona (Spain), 2008-**

This congress is known for global sustainable tourism criteria, 2008. The new criteria based on thousands of best practices culled from the existing standards currently in use around the world – were developed to offer a common framework to guide the emerging practice of sustainable tourism and to help businesses, consumers, governments, non-governmental organizations and education institutions to ensure that tourism helps, rather than harms, local communities and the environment.

## **OBJECTIVES OF THE STUDY**

Tourism has many forms and types which are intended to serve the needs of the different tourists. The activities of tourism may bring positive as well as negative impacts on the nature and environment which may further hamper our future needs. So these actions should be guided in a specific way so that they could bring only positive impacts for the tourists, host community and the environment which gives us resources to benefit ourselves in many ways. Therefore the paper intends to look into all those aspects of sustainability which could help the tourism industry. So it was intended in the paper to assess the challenges and opportunities for sustainability and management of tourism resources.

This paper has certain objectives to achieve through the study, which are as follows:

- To get more insights about Sustainable tourism
- To highlight the contribution of Sustainable tourism in economic development and Sustainability
- To know about the challenges and opportunities in sustainability and management of tourism resources.

---

## **METHODOLOGY**

This study intends to create awareness about the concept of Sustainable tourism and highlights how it contributes in the economic development and helps in management of tourism resources. This study tries to cover the different aspect of Sustainable management and development, the evolution of sustainability and its growing usage in tourism industry. This paper reviewed numerous papers on sustainable tourism and its different aspects. There are many international and national specialised and semi-specialised bodies which are directly and indirectly concerned with sustainability, sustainable development and sustainable tourism. Different academicians, researchers and organizations have done tremendous jobs in doing research on sustainable tourism and its different aspects. These works of different and varied contributors were reviewed in order to get more insights about the theme. And this paper presents an amalgamation of different views and opinions from across the world which sheds light on multifarious challenges to sustainability and opportunities for management of tourism resources.

## **ROLE AND CONTRIBUTION OF TOURISM IN ECONOMIC DEVELOPMENT**

Tourism in today's world has emerged as a big industry which is being looked upon as one of the major source of earning for countries around the world. Tourism has been playing a vital role in the economic development of the people and countries now a day. It has become a primary or the most important aspect of contributor in economic development for many countries which have nothing else to look at for their economic problem mitigation. Tourism helps in economic development in many ways, such as:

- It generates employment for many people of different capabilities through various ways.
- It brings money into the state, region or country.
- It becomes a source of foreign exchange earnings for the country.
- It helps in acculturation through participation by which local community gets benefitted.
- It helps in indigenization and contributes in GDP.
- It helps in establishing and maintaining standards for the stakeholders which in turn standardizes their standards.

There are numerous examples of tourism being a driving force for the economic development of many countries, which utilized tourism to the fullest of their capacity in sustainable manner. Countries like Mauritius, Tanzania, Switzerland, Caribbean islands etc. have very splendid environmental tourism resources and these countries utilized these resources in such a way that it gave them monetary and reputational dividends.

---

## **ROLE AND CONTRIBUTION OF TOURISM IN SUSTAINABILITY**

Tourism can significantly contribute to environmental protection, the conservation of biological diversity and the sustainable use of natural resources. Tourism is dependent on environmental resources for its prosperity and growth, so Tourism utilizes to the fullest these resources and works for their conservation and preservation.

Tourism contributes in following ways:

- Tourism raises awareness about the value of environmental and cultural assets.
- Tourism provides financial contribution, sustainable guidelines and provisions for the development of tourism infrastructures.
- It helps in sustainable management of environmental resources.
- Tourism also stimulates local people towards the sustainability of environmental resources so that they could be the first who can reap maximum benefits from these resources.
- Tourism brings to the fore the different stakeholders for their participative efforts in conserving environment and benefitting them.
- Different approaches are being used in the process of environment conservation through tourism like responsible tourism which itself co-relates with ecotourism and responsible tourism.

## **CHALLENGES TO SUSTAINABILITY AND MANAGEMENT OF TOURISM RESOURCES**

Liu (2003) said, “Tourism is a resource industry and natural environmental assets are the very foundation upon which all tourism rests and are usually the most successful in attracting tourists”. Therefore it becomes very essential for the tourism industry to keep its resources intact for the long go. And these resources must be utilized in a sustainable manner so that these resources could be sustained for long duration.

Tosun (2000) said, “Sustainable tourism development is an enormously difficult task to achieve in developing countries without the collaboration of the international tour operators and donor agencies such as World Bank and the International Monetary Fund”. He further elaborates the challenges in sustainability as, “There seems to be certain limitations to sustainability in tourism in developing countries like Turkey like priorities of a national economy, lack of contemporary tourism development approach, the structure of public administration system, the emergence of environmental matters and over commercialization, and the structure of the international tourism system”.

---

Forsyth (1997) said, “Tourism, like other industries has environmental impacts”. He also said that, “The current practices of voluntary environmental responsibility were considered to be ineffective by the industry itself”.

Waligo et al. (2013) quoted many other researchers and adduced many issues and challenges in sustainable tourism like- routes and directions for its applicability sometimes remain unclear, mistrust on government's policies, poor implementation and management, failure to involve local rural communities, improper communication, lack of stakeholders involvement, low level of awareness, co-ordination and collaboration problems, failure to clarify goals, unwillingness to make significant changes to current behaviour.

Creaco and Querini (2003), “The incorporation of sustainability in tourism development is root a self-evident issue but a politically contested one, if the different interpretations of the concept which have been identified are taken into account”. Further, “The core elements of tourism sustainability- ecology, economy and equity- are to be taken into consideration for balanced strategies”.

Buckley (2012) said, “The links between tourism, prosperity and sustainability are complex. Tourism industry advocates lobby against government environmental regulation, proposing self-regulation as an alternative”.

United Nations Economic and Social council talks about tourism and environmental protection in seventh session of Commission of Sustainable Development. For the tourism industry to remain credible in its commitment to sustainable development, it needs to address the below issues:

- Promote wider implementation of environmental management,
- Use more widely environmentally sound technologies, in particular to reduce emissions of CO<sub>2</sub> and other greenhouse gases and ozone-depleting substances, as set out in international agreements;
- Address the key issues of more eco-efficient design of tourism facilities;
- Raise the awareness amongst the tourists for their behavior and its implications in environment;
- Develop a better dialogue with the local communities in travel destinations, and promote the involvement of local stakeholders in tourism ventures;
- Work with Governments and other stakeholders to improve the overall environmental quality of destinations

---

## **OPPORTUNITIES FOR SUSTAINABILITY AND MANAGEMENT OF TOURISM RESOURCES**

Sigala (2008), “Sustainability in tourism is a multi-sectoral (hotels, restaurants, transport companies etc.) and a multi-disciplinary (economic, social and environmental) concepts. Sustainability includes the achievement of community wide good socio-economic, cultural and environmental long term impacts”.

Liu (2003), said, “We have now understood the interrelationship between tourism, the environment and the local community, the need for a long term perspective in both development planning resource conservation and a broader view in managing tourism to include the needs of all stakeholder groups. Our main task is not to limit the growth but to manage growth in a way that is appropriate to the tourists, the destination environment and the host population”.

McDonald (2009), “Understanding that underlying behaviors influencing the system can be in the form of values, conflicts, issues or perceptions helps to understand why Sustainable Tourism Development is problematic. The goals of sustainability will be elusive because of the dynamic environments in which tourism operates and sustainability should not be viewed as an end goal”.

Northcote and Macbeth (2006) in their research work “Conceptualizing yield: Sustainable Tourism Management” said, “The guiding principle behind it is that management requires consideration of the costs and benefits along a number of yield dimensions, namely current or expected levels, required levels in order for the system to be sustainable system, and the overarching ideological approach to integrating sustainable practices”.

Bramwell and Alletorp (2001) said, “Sustainable tourism in destinations might be advanced through co-ordination and recognition of mutual long term interests between the providers of the many tourism products, including the public sector, which is likely to play an important coordinating function for the destination's tourism management. A moral business might introduce sustainable tourism means as it seeks to do what is believed to be right society and the environment”.

Waligo et al. (2013), “The role of stakeholders in the implementation of sustainable tourism is becoming more prominent in both academia and industry. As stakeholders are instrumental to achieving sustainability objectives, stakeholder views are pivotal for the development of effective stakeholder involvement strategies. Key factors influencing stakeholder involvement in sustainable tourism were identified as leadership quality, information quality and accessibility, stakeholder mindsets, stakeholder involvement capacity, stakeholder relationships and implementation priorities”.

---

Steve Selin (1999) in his research work “developing a typology of sustainable tourism partnerships” said, “This is not to say that sustainable tourism development cannot result from partnerships within one sector. Examples from the tourism field abound such as recent initiatives by hotel and restaurant associations to promote environmental responsibility through recycling and other eco-efficiency measures. However, the negotiation, mutually determined goals and actions, and monitoring resulting from cross-section partnerships make it more likely that these initiatives will result in sustainable outcomes”.

Dolnicar and Leisch (2008) discussed about the different approaches by which sustainability could be achieved. One of such approach is selective marketing approach. They said, “The fundamental idea of the selective marketing approach is to attract a certain kind of tourists to the destination, those who believe in an environmentally friendly manner. Selective marketing is one additional tool that can be included in the environmentally sustainable toolbox, but many other tools could be developed”.

Buckley (2012) said, “Regulatory instruments provide the foundation of sustainability in tourism as in other industry sectors. To improve social and environmental performance across the entire tourism sector, both innovation and adoption are critical”.

Salom (2001), “When tourism is properly planned and managed, it is an ideal vehicle for achieving economic growth while promoting sustainable development. Hence there is a need to promote a harmonious balance between conservation of the environment and the development of tourism. All sectors involved must recognize that if tourism is to flourish, it must develop in a sustainable way and this can only happen through a mix of private initiatives, clean policies and strategic initiatives and public regulations”.

## **SUGGESTIONS**

The study was done intending to know more insights about sustainable tourism and challenges being faced by it and also to know about the different opportunities available for management of tourism resources in sustainable manner. The researcher had gone through different aspects of Sustainable tourism. The literature and the discussions made in the paper shed light on the evolution of the concept of sustainability, sustainable management and development. Sustainable tourism or the management of tourism resources through sustainability has very important implications through various means. Therefore following suggestions are given:

- 
- All the stakeholders like the government, non-governmental organizations, service providers, local community, tourists etc. must be given awareness about sustainable tourism.
  - They should be encouraged for adopting sustainability for offering as well as consuming the sustainable means of tourism services.
  - All the infrastructures for tourism must be as per the sustainability norms of national and international standards.
  - The local, state and national government must review its policies, guidelines and norms for sustainable tourism on periodic basis so that corrective actions could be taken well on time.
  - Future generations have equal right on the resources which were left behind for us by our previous generations. So all the people need to understand their role and must be participative in adopting sustainable approach for the wellbeingness of all.

## CONCLUSION

Tourism has many forms by which the desires of different types of tourists are satiated. It was previously a time when there was not much emphasis on the impacts of tourism and tourists on the nature and environment, but in today's modern era the scenario has changed. Now the present generation not only thinks about itself but also the potential concerns of the future generations are also addressed well in advance so that they could be equally on the receiving end of the benefits of tourism. Sustainable tourism helps in achieving this very objective by keeping in mind the needs of present generation and utilizing the environmental resources in sustainable manner so that they could be preserved and conserved for the upcoming generations as well.

Sustainable tourism is an approach which aims at adopting the actions, following the guidelines, respecting the nature and environment and taking all together towards a way which could lead to sustainable management and development of tourism resources. Tourism when planned-managed and executed in sustainable way then it leads to the economic development and environmental conservation together. So all the stakeholder need to understand the concept of sustainable tourism, its contribution in economic development and sustainability of environmental resources. There are a number of challenges to sustainability which were discussed in the paper and so the opportunities are there for the management of tourism resources in sustainable manner.

## REFERENCES

- *Bramwell, B. & Alletorp, L. (2001). Attitudes in the Danish Tourism Industry to the Roles of Business and Government in Sustainable Tourism. International Journal of Tourism Research, Vol.3, pp.91-103.*



- 
- *Brown, C. (2004). Steps to Sustainable Tourism. Travel and Tourism Forum, Australia.*
  - *Buckley, R. (2012). Sustainable Tourism: Research and Reality. Annals of Tourism Research, Vol.39, No.2, pp.528-546.*
  - *Climate change and tourism responding to global challenges (2007). Davos Declaration, Davos (Switzerland).*
  - *Coppola, M. (2010). Sustainable Tourism, 30 years policy development: Charters, recommendations, codes.*
  - *Dolnicar, S. & Leisch, S. (2008). Selective Marketing for Environmentally Sustainable Tourism. Tourism Management, Vol.29, No.4, pp.672-680.*
  - *Drexhage, J. & Murphy, D. (2010). Sustainable Development from Brundtland to Rio 2012. United Nations Headquarters, New York.*
  - *Forsyth, T. (1997). Environmental Responsibility and Business Regulation: The Case of Sustainable Tourism. Geographical Journal, 163:3, pp.270-280.*
  - *Hardy, A., Beeton, R.J.S. & Pearson, L. (2002). Sustainable Tourism: An Overview of the Concept and its Position in Relation to Conceptualizations of Tourism. Journal of Sustainable Tourism, Vol.10, No.6, pp.475-496.*
  - *Liu, Z. (2003). Sustainable Tourism Development: A Critique. Journal of Sustainable Tourism, Vol.11, No.6, pp.459-475.*
  - *Making tourism more sustainable: A guide for policy makers (2005). United Nations Environment Programme (UNEP) & United Nations World Tourism Organization (UNWTO). ISBN- 92-807-2507-6 (UNEP) & ISBN- 92-844-0821-0 (WTO).*
  - *McDonald, J.R. (2009). Complexity Science: An Alternative World View for Understanding Sustainable Tourism Development. Journal of Sustainable Tourism, Vol.17, No.4, pp.455-471.*
  - *McKercher, B. (2003). Sustainable Tourism Development- Guiding principles for planning and management. Presented in the National seminar on Sustainable Tourism Development, Bishkek, Kyrgyzstan.*
  - *Northcote, J. & Macbeth, J. (2006). Conceptualizing Yield: Sustainable Tourism Management. Annals of Tourism Research, Vol.33, No.1, pp.199-220.*
  - *Paul, B.D. A History of the concept of Sustainable Development: Literature Review. University of Oradea, pp-576-580.*
  - *Pratt, L. (2011). Tourism: Investing in energy and resource efficiency. United Nations Environment Programme, pp- 408-447.*
  - *Reddy, M.V., Ramonjavelo, P. & Wahnschafft, R. (2013). Expert group meeting on Sustainable tourism: Ecotourism, Poverty reduction and Environmental protection. United Nations Secretariat, New York.*
  - *Salom, J.R.P. (2001). Sustainable Tourism: Emerging Global and Regional Regulation. The Georgetown International Environmental Law Review, Vol.13, pp.801-836.*
  - *Selin, S. (1999). Developing a Typology of Sustainable Tourism Partnerships. Vol.7, No.3&4, pp.260-273.*
  - *Sigala, M. (2008). A Supply Chain Management Approach for Investigating the Role of Tour Operators on Sustainable Tourism: The Case of TUI. Journal of Cleaner Production, 16, pp.1589-1599.*
  - *Sustainable Tourism for India (2011). Ministry of Tourism, Government of India.*
  - *The International Council for Local Environment Initiatives (ICLEI). (1999). Sustainable Tourism: A Local authority Perspective. Commission on Sustainable development (7th session), Department of Economic and Social Affairs, UN, New York.*
  - *Tosun, C. (2001). Challenges of Sustainable Tourism Development in Developing World: The Case of Turkey.*
  - *Waligo et al. (2011). Implementing Sustainable Tourism: A Multi-Stakeholder Involvement Management Framework. Tourism Management, 36, pp.342-353.*
  - *World Ecotourism summit, Quebec (Canada) (2002) – Final Report. World Tourism Organization & United Nations Environment Programme. ISBN- 92-844-0550-5.*

---

---

# Impact of Service Quality on Satisfaction: A study of Library services in Management Institution

**Anamika Shrivastava<sup>1</sup> and Shailja Bhakar<sup>2</sup>**

<sup>1</sup>Dy. Librarian, Prestige Institute of Management, Gwalior

<sup>2</sup>Asstt. Professor, Prestige Institute of Management, Gwalior.

## **ABSTRACT**

*The purpose of the study was to examine the impact of service quality on satisfaction. The sample size was 100 male and female students studying at Prestige Institute of Management, Gwalior. The result indicated the significant impact of service quality on satisfaction.*

## **CONCEPTUAL FRAMEWORK**

Customer satisfaction is a term frequently used in marketing. It is a measure of how products and services supplied by a company meet or surpass customer expectation. Customer satisfaction is defined as "the number of customers, or percentage of total customers, whose reported experience with a firm, its products, or its services (ratings) exceeds specified satisfaction goals. According to Oliver (1997), conceptually, satisfaction is an outcome of purchase and use resulting from the buyer's comparison of the rewards and costs of the purchase in relation to the anticipated consequences. Oliver himself has defined satisfaction "as the consumer's fulfillment response, it is a judgment that a product or service feature, or the product or service itself, provided (or is providing) a pleasurable level of consumption-related fulfillment, including levels of under or over fulfillment." Some of well accepted definitions are mention below:

Parasuraman et al. (1985) defined service quality as "the global evaluation or attitude of overall excellence of services". Nitecki et al. (2000) defined service quality in terms of "meeting or exceeding customer expectations, or as the difference between customer perceptions and expectations of service" Kasper and Gabbott(2006, 186) define 'service quality is a complex and ephemeral concept which refers to some attribute of what is offered, provided whereas satisfaction or dissatisfaction refers to a customer's reaction to that offer'.

---

Zeithaml et al. (2006, 106) refer service quality focuses specifically on dimensions of service. 'Service quality is the totality of features and characteristics of service that bear on its ability to satisfy stated or implied needs'. (Kotler and Keller 2009, 169).

Kotler (1996) defined customer satisfaction as “the level of a person's felt state resulting from comparing a product's perceived performance or outcome in violation to his/her own expectations”.

Zeithaml and Bitner (2000) defined satisfaction as the customers' evaluation of a product or service in terms of whether product or service has met their needs and expectations. Failure to meet needs and expectations is assumed to result in dissatisfaction.

Customer satisfaction definition by Westbrook and Reilly define –“Customer satisfaction is an emotional response to the experience provided by, (or associated with) particular products or services purchased, retail outlets, or even molar patterns of behavior, as well as the overall marketplace.” (1983).

## **LITERATURE REVIEW**

Ming Wang and Chieh-Jen Shieh (2006) examined CJCUC Library users via questionnaire survey, trying to figure out users' importance on every service attribute and their perceptions. The results showed a significantly positive relationship between overall service quality and user satisfaction. The study only focused on users but ignored the thoughts and perceptions of library staff toward CJCUC Library. They believed that Users not only need library facilities to be maintained well, but also ask for a quiet reading environment without any disturbance. They suggest future research to include internal customer as key object for study.

Hernon et al. (1999) conducted a series of factor analyses on over 100 variables and found that the dimensions of library service quality included: guidance, waiting time, electronic services, staff (including obtaining courtesy, accessibility of services, and friendliness), and accurate places of data, normal operations of equipments, handling time of data delivery, library buildings and environment, library facilities (such as drinking fountains), data that met users' needs, and so forth.

Zubaidah Ibrahim & Fuziah Mohd Nadzar (2011) discussed on The Reader's Advisory Desk Service of the UPM library provided effective and efficient service to the clientele as none of the respondents were dissatisfied with this service and concluded that the Reader's Advisory Desk Service of the UPM library has successfully delivered the service to the users, thus achieving its mission that is to provide information or service needed by the users. This proves that the Reader's Advisory Desk Service of The

---

UPM library has rightly implemented the SERVQUAL dimensions as a process to improve its services and to provide good service quality.

Zaherawati Zakaria, et al. (2009), found that there is significant relationship between service quality and reliability, as well as responsiveness, i.e. dimensions of service quality measures which have strong positive relationship; and tangible dimension which has fairly strong positive relationship. Besides that they found that the attitudes and willingness of librarians have indeed significant relationship with the service quality.

Zabed Ahmad and Mohd Zahid Hossain Shoeb (2009) had used a SERVQUAL-based questionnaire to evaluate the public university library in Bangladesh, which is the Dhaka University Library. The findings revealed that the attitudes of the librarians during the user-librarian consultation session contributes to the user satisfaction and the extent of the frequency of the consultations between the user and the reference librarians. The findings confirmed that overall user satisfaction is based on the quality of services offered to and received by the users, as well as the perception of users' satisfaction towards the performance of the librarians offering the services.

Che Azlan Taib , Yohanis Rante and Ari Warokka(20013) conclude that the hypothesized five factor CFA model for ALUS is highly fit the data. Therefore, we decided no need to further identify any areas of misfit in the model. If the hypothesized model is low or moderately fit the data, AMOS software provides two types of information that can be helpful in detecting model misspecification, i.e. the standardized residuals and the modification indices. they conclude that five dimensional - DIM1 (Quality of Library Staff), DIM2 (Quality of Electronic Services), DIM3 (Service Suitability), DIM4 (Psychical Facilities Availability and DIM5 (Services Accessibility) are fit to measure academic library user satisfaction.

User satisfaction of libraries, customer satisfaction is defined as “the levels of service quality performances that meets users' expectations”

## **OBJECTIVES OF THE STUDY**

- To develop and standardize on service quality and satisfaction.
- To identified underlying faction of the questionnaire.
- To find out impact of service quality on satisfaction
- To identified difference between male and female on service quality and satisfaction.

---

## RESEARCH METHODOLOGY

**1. The study:** - was causal in nature with survey method being used to collect the data.

**2. Sample design:** -

- a) Population: included students taking library service of prestige institute of Management Gwalior.
- b) Sample element: individual students were sample element.
- c) Sampling techniques: Non probability quota sampling techniques was used to collect the data
- d) Sample Size: Were 100 respondents.

**3. Tools used for Data Collection:** - self design questionnaire. was used form data collection data was collected on 7point Likert types scale where 1 included minimum agreement and 7 included maximum agreement

**4. Tools for data Analysis**

- a) Reliability: - Cronbach's Alpha reliability test was applied to find out the reliability of the questionnaire.
- b) Factor Analysis: - Principal component Factor analysis with varimax rotation was applied to find out the underlying factors of the questionnaire.
- c) Regression:- Linear Regression was applied to find out impact of service quality on satisfaction.
- d) T Test: was applied to find out difference between males and females in case of service quality and satisfaction.

### Analysis and Interpretations

#### Reliability Test

Reliability test was carried out by using SPSS software and the reliability test measure are given below

S. No.	Variable Name	Cronbach's Alpha	No. of Item
1	Service Quality	0.919	23
2	Satisfaction	0.878	9

It is being considered that reliability should be more than 0.7 as we can see that the reliability through cronbach alpha test is more than the standard value, hence questionnaire is highly reliable.

#### Factor Analysis

Kaiser Meyer Olkin measure of Sampling Adequacy and Bartlett's Test of Sphericity

S. No	Variable Name	KMO	Bartlett's Test of Sphericity	Sig
1	Service Quality	0.868	911.333	0
2	Satisfaction	0.844	436.029	0

The Kaiser- Meyer-Olkin Measure of Sampling Adequacy Value was 0.868 and 0.844 indicating that the sample was adequate to consider the data as normally distributed. The Bartlett's Test of Sphericity was tested through Chi-Square value 911.333 and 436.029 significant at 0% level of significance indicating that the data has low sphericity and is therefore suitable for factor analysis.

Principal component Factor analysis with varimax rotation was applied to find out the underlying factors of the questionnaire. Factor Analysis converged on one factor only therefore the name of the variable can be taken as it is for further researches.

S No.	Factor Name	Eiger Value	% Of Valiance	Items	Item Locals
1	Up-to-date	3.479	15.128	24- Quiet space for individual activities	0.712
				20- The electronic information resources I need	0.682
				14 Modern equipment that lets me easily access needed information	0.668
				16- Print and/or electronic journal collections I require for my work	0.605
				22- The main text and reading I need for my work	586
				18- Current affairs / competition based magazine and news paper I require for my work	0.552
				23- Library space that inspires study and learning	0.501
				4- Willingness to help users	0.427
2	Ease of use	2.471	10.744	15- Easy to use access tools that allow me to find things on my own	0.816
				7- Employees who understating the needs of their users	0.634
				17- Searching data on internet whenever I want	0.612
3	Facilitating	2.326	10.111	6- Providing help when and where I need it	0.705
				12- Dependability in handling users service problems	0.608
				8- Giving users individual attention	0.599
4	Supportive	2.261	9.831	1- Employees who deal with users in a caring fashion	0.764
				3- Teaching me to find library resources my self	0.738
				2- Employees who instill confidence in users	0.617
5	Considerate	2.256	9.81	19- A getaway for study, learning , or research	0.7
				5- Employee who are consistently courteous	0.618
				9- Readiness to respond to users questions	0.556
				10- Employee who have the knowledge to answer user questions	0.536
6	Contented	1.957	8.509	11- Making information easily accessible for independent use	740
				13- A comfortable and inviting location	713

S No.	Factor Name	Eiger Value	% Of Valiance	Items	Item Locals
1	Proficiency	2.924	32.491	3 Communication style and information provision	0.854
				1 -Access to overall services	0.775
				5 Security of your care	0.775
				7 Competence in overall service delivery	0.597
2	Approachable	2.839	31.546	8 Reliability of overall service delivery	0.869
				10 Tangibles: up-to-date range of physical	0.815
				2 Responsiveness to your needs	0.73
				4 Humaneness in dealing with you	0.602
				6 Enabling/Empowerment of your development	0.562

### Linear Regression

Linear Regression was applied between quality as independent variable and satisfaction intention as dependent variable

Model Summary					
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	
1	.833a	0.694	0.692	5.62399	
a. Predictors: (Constant), Service					

ANOVA <sup>b</sup>						
Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	7908.06	1	7908.06	250.024	.000a
	Residual	3479.22	110	31.629		
	Total	11387.3	111			
a. Predictors: (Constant), Service						
b. Dependent Variable: Satisfaction						

Coefficients								
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
1	(Constant)	1.162	2.841		0.409	0.683		
	Service	0.404	0.026	0.833	15.812	0	1	1
a. Dependent Variable: Satisfaction								

$$Y = a + bx$$

$$Y = 1.162 + .404x$$

Where,

X= Service Quality (independent variable)

Y= Satisfaction (dependent variable)

The model having quality as independent variable and satisfaction intention as dependent variable has good fit as indicated by F-test value which is 250.024 significant at .000 level of significance. The result of regression table from the coefficient table indicates that quality has a significant cause and effect relationship with satisfaction intention having beta value of .833 tested through t-test having t-value of 15.812 which is significant at 00.0% level of significance. The model summary table indicates that quality has 69.4% effect on satisfaction since the r square value of table is .694 which means quality has a very high impact on satisfaction intention.

### T Test

T Test between Parker and Reynolds before showing advertisement

Null Hypothesis H0: There is no significant difference between the brand images of Parker and Reynolds Pens before showing advertisement

	N		Mean	Std. Deviation	Std. Error Mean
Service	1	51	110.294	19.79727	2.77217
	2	61	108.131	21.8384	2.79612
Satisfaction	1	51	46.4902	8.85522	1.23998
	2	61	44.2951	11.05493	1.41544

Independent Samples Test										
		Levene's Test for Equality of Variances		t-test for Equality of Means						
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
								Lower		Upper
Service	Equal variances assumed	1.270	0.262	0.545	110	0.587	2.16297	3.97226	-5.70913	10.03507
	Equal variances not assumed			0.549	109.254	0.584	2.16297	3.93741	-5.64065	9.96659
Satisfaction	Equal variances assumed	4.421	0.038	1.144	110	0.255	2.19511	1.91913	-1.60816	5.99839
	Equal variances not assumed			1.167	109.817	0.246	2.19511	1.88176	-1.53416	5.92439



---

Levene's test for equality of variances was evaluated through F Test value for service quality and satisfaction 1.270 and 4.421 which was significant at .262 and .038 indicating that the variances of the two groups were equal for quality whereas the variances for two groups were not equal for satisfaction therefore T Test assuming equal variances will be applied for quality and equal variances not assumed for satisfaction. The T value for service quality with equal variances assumed was .545 which was significant at .587 indicating no significant difference between males and females responses towards service quality. The T value for satisfaction with equal variances not assumed was 1.167 which was significant at .246 indicating no significant difference between males and females responses towards satisfaction. The mean values from group statistics table indicated males rated library service quality higher than females as well as their satisfaction level was also higher than females.

## CONCLUSION

The questionnaire on service quality and satisfaction were standardize using reliability and factor analysis. The questionnaire found reliable for conducting the further study.

Regression was applied to find out relationship between service quality and satisfaction. the result indicate that 69.4% variance in satisfaction was explained by service indicating a significant impact of service quality on satisfaction. T test was applied to find out difference between male and female respondent toward service quality and satisfaction. No difference was found in males and females dependences towards service quality and satisfaction.

Finally it can be conclude that librarians should improve service quality in order to get satisfaction of students coming to the library.

## REFERENCES

- Bramwell, B. & Alletorp, L. (2001). *Attitudes in the Danish Tourism Industry to the Roles of Business and Government in Sustainable Tourism. International Journal of Tourism Research, Vol.3, pp.91-103.*
- Taib, Che Azlan, Rante, Yohanis & Warokka, Ari. (2013). *The University Quality Level Benchmarking: Can the Academic Library Users' Satisfaction Serve as the Anchor of Service Performance Level? Journal of e-Learning & Higher Education, 2013. Retrieved from: <http://www.ibimapublishing.com/journals/JELHE/2013/317385/317385.pdf>*
- Nitecki, D. A. & Herson, P. (2000). *Measuring service quality at*
- Kasper, H., Helsdingen, P. & Gabbott, M. (2006). *Service marketing management. West Ussex: John Wiley and sons ltd.*
- Wang, I-Ming & Shieh, Chich-Jen. (2006). *The relationship between service quality and customer satisfaction: the example of CJCU library. Journal of Information & Optimization Sciences, 27 (1), 193–209. Retrieved from: <http://www.tarupublications.com/journals/jios/full-text/jios-27-1-2006/jios134.pdf>*
- Oliver, R. L. (1997). *Satisfaction: A Behavioral Perspective on the Consumer. United States: Mcgraw-Hill. .*

- *Hernon, P., Danuta, A. N. & Altman, E. (1999). Service quality and customer satisfaction: an assessment and future directions. Journal of Academic Librarianship, 25 (1), 9–17*
- *Kotler, P. & Armstrong, G. (1996). Principles of Marketing. New Jersey: Prentice-Hall.*
- *Parasuraman, V., Zeithaml, A. & Berry, L.L. (1988). SERVQUAL: A multiple-item scale for measuring consumer perceptions of service quality. Journal of Retailing, 64 (1), 12–40.*
- *Ahmad, Zayed & Shoeb, Mohd Zahid Hossain. (2009). Measuring service quality of a public university library in Bangladesh using SERVQUAL. Performance Measurement and Metrics, 10 (1), 17 -32.*
- *Zaherawati Zakarian et al. (2009). Service quality in Sungai Petani Public Library: Malaysian evidence? Canadian Social Science, 5 (6): 49-59.*
- *Zeithaml, V. & Bitner, M. (2006). Services marketing. New York: McGraw -Hill.*
- *Iberahim, Zubaidah & Nadzar, Fuziah Mohd. (2011). Service Quality and User Satisfaction of the Reader's Advisory Desk Service: A Case Study of University Putra Malaysia Library. JIKM, 1(1), 37-54. Retrieved from: <http://eprints.uitm.edu.my/8288/1/JIKM%201%281%29,%2037-54,%202011.pdf>*
- *Wikipedia. (2015). Customer satisfaction. Retrieved from: [http://en.wikipedia.org/wiki/Customer\\_satisfaction](http://en.wikipedia.org/wiki/Customer_satisfaction)*
- *Sharmin, Wadud. (2012). Customer satisfaction in business: A case study of Moon Travel LTD, Finland. Retrieved from: <http://www.theseus.fi/bitstream/handle/10024/54685/Wadud%20Sharmin.pdf?sequence=1>*

## Annexure

### Reliability Statistics

<u>Cronbach's Alpha</u>	<u>Cronbach's Alpha Based on Standardized Items</u>	<u>N of Items</u>
.919	.919	23

### Reliability Statistics

<u>Cronbach's Alpha</u>	<u>Cronbach's Alpha Based on Standardized Items</u>	<u>N of Items</u>
.878	.878	9

### KMO and Bartlett's Test

<u>Kaiser-Meyer-Olkin Adequacy</u>	Measure of Sampling	.868
<u>Bartlett's Sphericity</u>	Test of Approx. Chi-Square	911.333
	df	253
	Sig.	.000

### KMO and Bartlett's Test

<u>Kaiser-Meyer-Olkin Adequacy</u>	Measure of Sampling	.844
<u>Bartlett's Sphericity</u>	Test of Approx. Chi-Square	436.029
	df	36
	Sig.	.000

---

---

# Implications Of Business Ethics For Quality Management

**Mr. Rajarshi Singh<sup>1</sup> and Mr. Rajarshi Singh<sup>2</sup>**

<sup>1</sup> Assistant Professor, HIMT Greater Noida  
HIMT, Boys Hostel, Greater Noida, [raj83.net@gmail.com](mailto:raj83.net@gmail.com)

<sup>2</sup> Assistant Professor, HIMT Greater Noida  
C-45, Beta- 1, Greater Noida [sabaj@rocketmail.com](mailto:sabaj@rocketmail.com)

## ABSTRACT

*Ethics Quality is a company that is driven by the idea that "Getting ethics into organizations improves performance." They take a performance approach to ethics management in order to improve the behavior of the individuals within a company and the company as a whole. They believe that good ethics within individuals and groups will improve operating and quality performance. Especially in times like today, making money is the utmost importance to both the individual and the company. Focusing solely on money can blind us from ways to improve the quality within the company. Ethics Quality shows us the ways to think strategically and improve that ethical wrong thinking.*

*Quality control is a process by which entities review the quality of all factors involved in production. This approach places an emphasis on some aspects viz. elements such as controls, job management, defined and well managed processes, performance and integrity criteria, and identification of records.*

*Overall, we believe that ethical quality management will improve overall performance of a company and provide a higher employee standard. We have demonstrated an ethical method, shown how an ethics program can be implemented in a real company, discussed ethical issues today in the many industry and provided an example of a consulting company that uses ethics management to improve the performance of a company.*

## 1. INTRODUCTION

***“Ethics is not definable, is not implementable, because it is not conscious; it involves not only our thinking, but also our feeling.”***

Quality control is the more traditional way that businesses have used to manage quality. Quality control is concerned with **checking** and **reviewing** work that has been done. But is this the best way for a business to manage quality?

Quality control is a process employed to ensure a certain level of quality in a product or service. It may include whatever actions a business deems necessary to provide for the control and verification of

---

certain characteristics of a product or service. The basic goal of quality control is to ensure that the products, services, or processes provided meet specific requirements and are dependable, satisfactory, and fiscally sound.

Essentially, quality control involves the examination of a product, service, or process for certain minimum levels of quality. The goal of a quality control team is to identify products or services that do not meet a company's specified standards of quality. If a problem is identified, the job of a quality control team or professional may involve stopping production temporarily. Depending on the particular service or product, as well as the type of problem identified, production or implementation may not cease entirely.

Usually, it is not the job of a quality control team or professional to correct quality issues. Typically, other individuals are involved in the process of discovering the cause of quality issues and fixing them. Once such problems are overcome, the product, service, or process continues production or implementation as usual.

Quality control can cover not just products, services, and processes, but also people. Employees are an important part of any company. If a company has employees that don't have adequate skills or training, have trouble understanding directions, or are misinformed, quality may be severely diminished. When quality control is considered in terms of human beings, it concerns correctable issues. However, it should not be confused with human resource issues.

Often, quality control is confused with [quality assurance](#). Though the two are very similar, there are some basic differences. Quality control is concerned with the product, while quality assurance is process-oriented.

Even with such a clear-cut difference defined, identifying the differences between the two can be hard. Basically, quality control involves evaluating a product, activity, process, or service. By contrast, quality assurance is designed to make sure processes are sufficient to meet objectives. Simply put, quality assurance ensures a product or service is manufactured, implemented, created, or produced in the right way; while quality control evaluates whether or not the end result is satisfactory.

## **MANAGERIAL ETHICS**

[Managerial ethics](#) illustrate a rather sensitive issue. The recent business history has proven ethics as a

---

rather challenging objective of larger organizations. The following topics / views may illustrate fundamental issues in the current debate. The current competing views include “Maximize Profit” and “society's welfare” . Maximizing profits illustrate the greatest commitment to shareholder and stakeholders. In this particular theory, the managerial staff is only committed to maximize the bottom-line in terms of profit: a mean to an end in order to achieve the highest possible profits. Society's welfare illustrates a common goods approach. In this particular approach managerial staff attempts to achieve a balance between the bottom-line and social welfare of the society and employees. It is of great interest to explore the theoretical aspects of managerial issues and compare them to real practices. The two above name theories assume that managerial issues are constrained and objective; stakeholders vs. society. On the other hand, the reality proves a rather multi dimensional reality; stakeholders vs. society vs. culture vs. religion vs. politics vs. diversity vs. personality vs. globalization vs. many other unpredictable factors. Further, both of theories appear to be better suited for larger organizations: small businesses encounter more immediate issues such as revenue and cash flow rather than managerial ethics. Most small businesses ran by savvy business people are less concerned about ethics. Out of extensive experience in consulting small businesses, I can confidentially stat that I have never met a small business owner that was not willing to take unethical actions in order to maximize profits. Given the fact that this is not a scientific statement, it is important to view this statement in terms of personal experiences, which conflicts with the academic management practices. Moreover, there is more to the issue of ethics. Given the fact that both competing theories consider some sort of managerial responsibility to someone or some group, illustrates a major weakness of both theories. Both theories fail to point to the necessity of “perception”. It is hypocritical to expect only one segment of a society i.e. businesses to create value or consider societal consequences. Thus, most business simply attempt to create a perception of societal responsibilities rather than genuine concerns In terms of creating profits, it is important to understand that in practical terms, it is difficult to create social awareness or consider social issues without being able to prove their value to the business shareholder or stakeholder. Thus, any managers' first priority should be profits, Once the objective of achieving the highest possible profits have been achieved, an organization can effort to pursue alternate goals of societal concerns and improvement. Some people may argue that societal benefits / concerns may have a direct influence on the bottom line of any given business. However, it is important to point to the fact that it is extremely difficult to quantify the direct impact of societal charity work on corporate profits. It is merely possible to use anecdotal and qualitative data in order to assign arbitrary real value to such social actions. Ultimately, it is important to consider the main goal of any given company i.e. [profits](#). It is further important to allow for businesses to pursue and achieve their goals before they can be expected to become beneficial corporate citizens.

---

## **ETHICS IS A KEY ISSUE TODAY**

The question of ethical conduct in public service has grown in people's perceptions. Stories of “clean hands” initiatives and legal action against politicians and high-level officials accused of corruption are making media headlines. A growing sense of mistrust and an apparent decline of confidence in government and public service is observed among citizens. These developments have raised several issues. Is this trend a result of recent public management reforms that evolved authority and gave discretion to public managers? Do developments such as globalization and more public private partnerships destroy the public service ethos? Is it correct to say that these stories are in the news because civil society has gained more leverage and is demanding greater transparency, or simply that the media know and report more?

## **RESPONSES ARE MANY**

Governments try to provide responses to these challenges. They issue new codes of conduct, strengthen controls and inspection, devise action programmes against corruption, organize training sessions, etc. Moreover, PUMA's work showed that, while governments may focus on specific aspects of improving The Public Management Committee (PUMA) of the OECD developed a set of principles for managing ethics in the public service. They were discussed at a symposium held in November 1997. After a thorough review, the Committee presented them to the Council of the OECD, which adopted them as a recommendation. OECD ministers later welcomed the recommendation and asked the PUMA Committee to report in 2000 on the way countries were using these principles. Ethical conduct, they actually have recourse to a whole ethics infrastructure.

## **AN ETHICS INFRASTRUCTURE**

An infrastructure approach implies a comprehensive view of ethics where the various elements complement each other holistically. They constitute a whole and need to function in harmony. Concentrating on one single element does not help. A good example is what a former mayor of a big city has said: “To fight corruption, I introduced new control mechanisms. Everything was checked twice; but, it did not help. These measures created huge bureaucratic burdens and the amount of bribery paid per transaction increased.” More attention to other elements would have helped. The success of ensuring a better ethical environment depends on the proper management of the entire ethics infrastructure.

---

## 7- PRINCIPLES OF ADMIRABLE BUSINESS ETHICS

**1. Be Trustful:** Recognize customers want to do business with a company they can trust; when trust is at the core of a company, it's easy to recognize. Trust defined, is assured reliance on the character, ability, strength, and truth of a business.

**2. Keep An Open Mind:** For continuous improvement of a company, the leader of an organization must be open to new ideas. Ask for opinions and feedback from both customers and team members and your company will continue to grow.

**3. Meet Obligations:** Regardless of the circumstances, do everything in your power to gain the trust of past customer's and clients, particularly if something has gone awry. Reclaim any lost business by honoring all commitments and obligations.

**4. Have Clear Documents:** Re-evaluate all print materials including small business advertising, brochures, and other business documents making sure they are clear, precise and professional. Most important, make sure they do not misrepresent or misinterpret.

**5. Become Community Involved:** Remain involved in community-related issues and activities, thereby demonstrating that your business is a responsible community contributor. In other words, stay involved.

**6. Maintain Accounting Control:** Take a hands-on approach to accounting and record keeping, not only as a means of gaining a better feel for the progress of your company, but as a resource for any "questionable" activities. Gaining control of accounting and record keeping allows you to end any dubious activities promptly.

**7. Be Respectful:** Treat others with the utmost of respect. Regardless of differences, positions, titles, ages, or other types of distinctions, always treat others with professional respect and courtesy.

Recognizing the significance of business ethics as a tool for achieving your desired outcome is only the beginning. A small business that instills a deep-seated theme of business ethics within its strategies and policies will be evident among customers. It's overall influence will lead to a profitable, successful company. By recognizing the value of practicing admirable business ethics, and following each of the 7 principles, your success will not be far off.

---

Many companies mistakenly view quality management and ethics development as two unrelated concerns. On the contrary, the two are interdependent and an increased understanding of their relationship will significantly improve the ability to attain their objectives. A brief overview of the benefits that can be derived from a shift from a detection and control paradigm to one of coordination and strategic impact is presented.

## **LINKAGES BETWEEN QUALITY MANAGEMENT AND BUSINESS ETHICS**

The discussion on developments of both quality management and business ethics has shown that there are several linkages:

1. An obvious connection is that both quality management and business ethics focus on the responsibilities of an organisation towards different stakeholders.

However, on a closer look, the responsibility discussed in quality management refers to organisational responsibility of employees, while business ethics is more concerned with professional, relational and social responsibility.

2. In order to achieve the organisational responsibility that is desired in quality programmes it is necessary to have some leeway in relational responsibility.

This is illustrated by the apparent paradox of control that shows that excellent performance can only be achieved by making a delicate balance between controls of behaviour on the one hand and release to act on the other.

3. A third link between quality management and business ethics refers to the necessity to link a meaningful answer to the good intentions stressed in ethics programmes. The ability to act in congruence with personal motives on an individual level, and a code of conduct on a collective level, should be organised and managed. Quality management tools, including the control of internal processes, create an essential part of this ability.

The foregoing analysis shows that there are not only correspondences between quality management and business ethics but they are also prerequisites for each other. In order to give a meaningful answer, while avoiding the paradox of control, careful balancing between the different types of responsibility is necessary. On one hand, we need control where quality management tools can be very useful. On the other hand, we need trust from, and moral concern for, the people involved. This balance can be organised by:

- respect for individuals as the ultimate sense making 'entities'.
- the inalienable imperative of individuals to reflect upon their own moral positions.
- identification of collective entities (teams, groups, organisations) with moral impacts on their
- environment.
- organising for responsibility on a collective level.



---

## **STRENGTHENING QUALITY MANAGEMENT SYSTEMS**

A good balance between control and release can strengthen quality management systems. To support the organisation of such a balance a number of tools are available in the field of both business ethics and quality management. From quality management methods and instruments like (self-) assessments, auditing, benchmarking, exchange of best practices are widely available and applicable. From the field of business ethics instruments like codes of conduct, community advisory panel, dilemma training and sustainability reports are important.

In the previous analysis it was made clear that quality management and business ethics have more linking them together than simply similarities. The connection is much stronger; quality management and business ethics require each other! Still, in practice, many organisations in organising their relational, social and professional responsibility do so with distinct ethical programmes. In our opinion, the linkages between quality management and business ethics are a strong argument for integrating the associated management systems. Especially when an ethics programme is based on norms such as SA8000 or the AA1000, such integration can be managed carefully. An integrated system can encompass tools and methods drawn from both fields. In figure 3, the different tools and methods from quality management and ethics management are summarised.

## **CONCLUSION**

All companies have a minimum set of standards and quality that their product or service has to meet. Quality Control is a set of procedures used and followed to ensure that the required minimum set of standards and quality are met. If the product or service is not meeting minimum requirements, a Quality Control committee meets to discuss changes in procedures that will help improve product or service quality. Keep in mind that meeting minimum standards in no way guarantees excellence in quality to the customer. Some company's minimum required standards are actually pretty poor quality in product or service. For some companies, they only do as little as necessary to make a product safe. That does not mean it is a good product in any way. Like the example used about McDonalds. They have quality controls in place on how to handle and cook meat and cleaning surfaces that meat touch to ensure you do not get food poisoning. That does not mean the qualities of their burgers are any good. It just means it won't kill you if you eat it.

Overall, we believe that ethical quality management will improve overall performance of a company and provide a higher employee standard. We have demonstrated an ethical method, shown how an ethics

---

program can be implemented in a real company, discussed ethical issues today in the software industry, and provided an example of a consulting company that uses ethics management to improve the performance of a company.

## **REFERENCES**

- Pyzdek, T., *Quality Engineering Handbook*, 2003. ISBN 0824746147.
- *Bibliography*
- *Ethics Inc. "Who Getting Ethics Into Organizations Improves Performance" 2006. 1 Dec.*
- 2007 <<http://www.ethicsquality.com/>>.
- Yannick, Julliard. "Ethics Quality Management" Fall 2004. 1 Dec. 2007
- <<http://scholar.lib.vt.edu/ejournals/SPT/v8n1/pdf/julliard.pdf>>.
- Pelalak, Alan E. "Improving software quality: an ethics based approach" 2004. 1
- Dec. 2007 <<http://portal.acm.org/citation.cfm?id=982372.982408>>.
- *United Technologies "Our quality vision" 2006. 1 Dec. 2007*
- <<http://www.utc.com/profile/quality/index.htm>>.
- Foster, S.T. (2004). *Managing Quality: Integrating the supply chain*. Upper Saddle
- River, NJ: Pearson Education.
- *This article incorporates public domain material from the General Services Administration document "Federal Standard 1037C" (in support of MIL-STD-188).*
- Godfrey, A. B., *Juran's Quality Handbook*, 1999. ISBN 007034003.

---

---

# The Growth Due To Innovations In The Hotel Industry And The Effect On The Sustainability Of The Industry

**Digvijay Singh Rana**

## **INTRODUCTION**

The Earth is 4600 million years old. Dinosaurs appeared 1000 million years ago. Then came the ice age and after that is the current scenario. Humans have made earth a 'rubbish tip of paradise' during the last 60 seconds of biological time. The debate over the existence of global warming and climate change rages on between the scientific community and entities that continue to refuse to accept the theory despite the abundance of scientific research that substantiates it. Most of our hotel industry continues to operate in a mode of “business as usual” pertaining to environmental issues. This attitude is not acceptable given the gravity of the problem and the potential consequences.

This paper will focus on identifying the positive and negative effects of new innovations on the environment; the impact of the hotel industry on global warming; current initiatives in place both in and out of the hotel industry to combat the problem. The broad objective of this research project is to examine the role of hotel industry's innovations in saving the climate. For this, a survey was conducted and it was found that some hotels have established a carbon neutral facility according to the latest Environmental Protection Agency (EPA) data. However, there remains a vast number of hotels which don't follow the said guidelines.

There are some facts regarding global warming considered to be “known with virtual certainty” (EPA data 2011) which means that the following assertions have a greater than 99% chance to be true:

- the human activity of burning fossil fuels is changing the composition of the earth's atmosphere
- the levels of carbon dioxide (CO<sub>2</sub>) and other greenhouse gases (GHG's) in the atmosphere have risen since the pre-industrial times.
- GHG's emitted by human activities remain in the atmosphere for decades to centuries making it virtually certain that the levels of these gases will continue to rise.

- 
- Increasing GHG concentrations tend to warm the planet
  - An unequivocal warming trend of about 1.0 to 1.7 degrees F occurred in both the Northern and Southern Hemisphere as well as over the oceans between the years 1906-2005 (IPCC,2007)

According to the Fourth Assessment Report of the Intergovernmental Panel on Climate Change (IPCC), scientists anticipate that as the concentration of GHG's in the atmosphere continues to rise, average global temperature and sea levels will continue to rise as a result and precipitation patterns will change . These changes have the potential to be devastating and costly to the hospitality industry.

The contribution of the hospitality industry to global warming and climate change due to its sheer size is enormous. These contributions will be further explored for the purposes of this paper. Issues of energy usage, limited natural resources, and operational costs are always central issues to any industry. Finding the appropriate balance in all of these areas is vitally important to each individual, corporation, industry, and to our world as a whole.

Although the hospitality industry is a major contributor to global warming and climate change, the industry appears to be dreadfully lacking in proactive initiatives to reduce their contributions . Many questions arise around these topics, and so far, no clear answers. What are hospitality corporations doing in their attempt reduce their contribution to global warming and climate change? Who within the industry is responsible for implementing the conversion to green or sustainable hospitality facilities? Because industry-specific efforts to combat climate change are falling well short of what they need to be, it is imperative that this problem be explored further. Mandated initiatives within the industry must be put into place to ensure that a carbon-neutral, sustainable hospitality industry can continue to meet the needs of the customers.

## **CONTRIBUTION TO CLIMATE CHANGE BY THE HOSPITALITY INDUSTRY**

Tourism and the hospitality industry have been important aspects in the economic development of many regions in the world. However, along with these benefits comes negative consequences for the environment. As one of the world's fastest and largest growing industries, its development is placing great stress on the environment. Globally it is estimated that 5% of C02 and other GHG emissions can be

---

attributed to the tourism industry. It is estimated that buildings are responsible for approximately 40% of global energy use and up to 30% of global GHG emissions can be attributed to the tourism industry. It is estimated that buildings are responsible for approximately 40% of global energy use and up to 30% of global GHG emissions. In the United States hotels account for more than 5 billion square feet of space, nearly 5 million guest rooms, and generate approximately \$4 billion in annual energy usage.

Energy consumption, water usage, the generation of enormous amounts of garbage, failure to recycle, failure to utilize recyclable and compostable products and a host of other contributors to global environmental problems are neglected by the hospitality hotel industries. For these reasons there are many possible interventions possible for utilization in this industry.

More over ETPs are being installed in the hotels. More solar Power is being used. Green Hotels are coming up.

## **INITIATIVES TO COMBAT GLOBAL WARMING/CLIMATE CHANGE**

There are initiatives in a variety of industries that are aggressively attempting to address the problem of global warming and climate change, as well as mitigating its effects. These include, but are not limited to, the United States Building Council LEED program, the Building Research Establishment's Environmental Assessment Method, and the Green Globe Certification and Operational Performance Program.

### **LEED Program**

Since the year 2000 the United States Green Building Council has been transforming the building industry marketplace to promote the sustainable building, design, construction, and operations practices (FAQ LEED and the Hospitality Industry, 2011.) The acronym LEED stands for 'Leadership in

Energy and Environmental Design'. LEED has developed a rating system that attempts to certify and push the advancement of a planet-wide implementation of green building and developmental practices.

In 2006 a LEED program was specifically developed to assist hospitality facilities in becoming more environmentally friendly, or green. As of March 3, 2011, 91 lodging properties have achieved LEED certification, and an additional 1, 100 properties have registered with the program and are working

---

toward their certifications (FAQ LEED and the Hospitality Industry 2011).

The Green Building Council has also created a Green Venue Selection Guide to be used by businesses to integrate hospitality facilities with green practices into their travel and event management planning . Both of these programs were created by an entity outside of the hospitality industry.

In reviewing the recent initiatives toward becoming a “carbon-neutral” or “sustainable” industry, there were none identified that were specific to the hospitality industry. While some corporations within the industry are actively pursuing LEED accreditation and other avenues for becoming green, the numbers are negligible in comparison to the size of the industry as a whole.

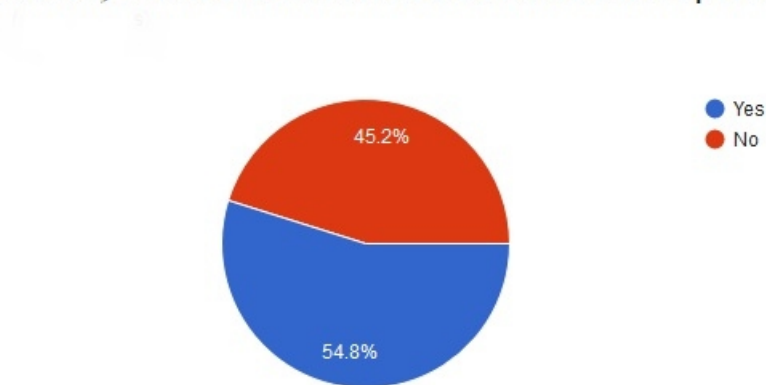
## METHODOLOGY

A questionnaire was distributed among personnel working in the hotel industry to find out if the new innovations are harming a sustainable environment in the hotel industry and is having any positive or negative effect on global warming.

## RESULT

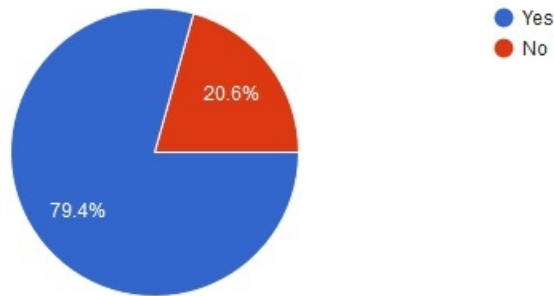
Following are the questions asked and the response received:

Is sustainability more important than getting new innovations in the Hotel Industry which are harmful to the climate but are profitable?



---

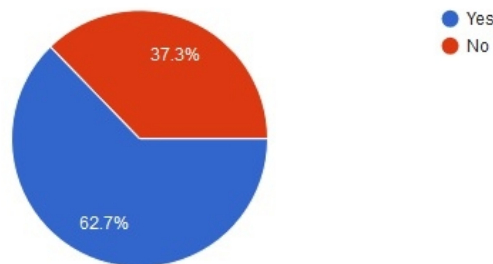
Do you feel that the hotel industry is becoming Eco-Friendly?



**Fig.1 Importance of sustainability**

54.8% of the hotel industry thinks that the sustainability is more important than earning profit. The other 45.2% said that Profit comes first for the survival of the industry.

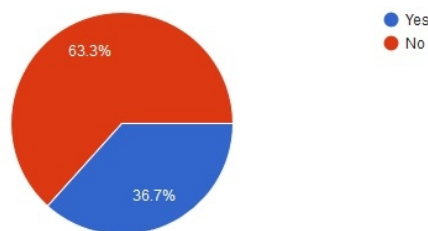
Is the Hotel Industry exploiting the resources, both Human and Natural ?



**Fig.2 Exploitation of resources**

A majority of the personnel working in the industry believe that the hotel industry is exploiting human as well as Natural resources. Very few steps are being taken to renew the natural resources.

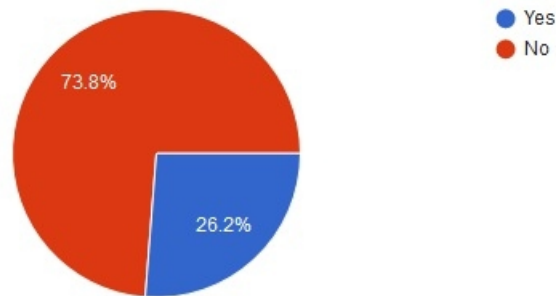
By using more of machines, are we retarding employment generation?



**Fig.3 Machines and Employment Generation**

---

Do the Hotel Industry believes in reducing carbon emission by using less of technology ?



**Fig.4 Reduction of carbon emissions**

73.8% of the personnel working in the hotel industry believe that the hotel industry doesn't believe in reducing carbon emissions at all. Whereas 26.2% said that the hotel industry is taking steps to reduce carbon emission.

## **CONCLUSION**

Hence, the conclusion of this research comes out to be that 54.8% of the Employees believe that the hotel industry is becoming more sustainable.

Majority of the hotel industry is still inclined towards gaining profit at any cost. 73.8 % believe that the hotel industry pays no attention to carbon emission. It is becoming eco-friendly but at a very slow pace. A large amount of waste is still being produced.

It is exploiting the natural resources and new innovations are making it sustainable. But not every hotel is doing its part in increasing the pace of the growth that is needed to be a sustainable industry. More steps to make things better are needed to be taken. Introduction of more green initiatives. More hotels should try to get inducted into the green hotel category. More use of solar and wind energy is required. Less of non-renewable resources, More of renewable resources. To make the environment more sustainable in the industry we need to act upon the infrastructure betterment. Renewable Resources are to be used and encouraged.

All we need to do is Think Responsible, Act Sustainable.



---

## **REFERENCES**

1. *FAQ Leadership in Energy and Environmental Design (LEED) and the Hospitality Industry, 2011. Retrieved from USGBC.*
2. *Ecotourism and Environment Handbook – Eco-Tourism Society of India*
3. *India International Hotel, Travel and Tourism Research Conference “Technology trends and Innovations” (February 2012)*
4. *Paul Michael, C. The hospitality industry’s response to climate change. Retrieved from <http://digitalscholarship.unlv.edu/cgi/viewcontentarticle=2361&context=thesedissertations>*
5. *Climate Change and The Hotel Industry , December 3 2015 <http://tourismpartnership.org/news/climate-change-and-the-hotel-industry>*

# Instructions for Authors

## Essentials for Publishing in this Journal

- 1 Submitted articles should not have been previously published or be currently under consideration for publication elsewhere.
- 2 Conference papers may only be submitted if the paper has been completely re-written (taken to mean more than 50%) and the author has cleared any necessary permission with the copyright owner if it has been previously copyrighted.
- 3 All our articles are refereed through a double-blind process.
- 4 All authors must declare they have read and agreed to the content of the submitted article and must sign a declaration correspond to the originality of the article.

## Submission Process

All articles for this journal must be submitted using our online submissions system. <http://enrichedpub.com/> . Please use the Submit Your Article link in the Author Service area.

---

## Manuscript Guidelines

The instructions to authors about the article preparation for publication in the Manuscripts are submitted online, through the e-Ur (Electronic editing) system, developed by **Enriched Publications Pvt. Ltd.** The article should contain the abstract with keywords, introduction, body, conclusion, references and the summary in English language (without heading and subheading enumeration). The article length should not exceed 16 pages of A4 paper format.

### Title

The title should be informative. It is in both Journal's and author's best interest to use terms suitable. For indexing and word search. If there are no such terms in the title, the author is strongly advised to add a subtitle. The title should be given in English as well. The titles precede the abstract and the summary in an appropriate language.

### Letterhead Title

The letterhead title is given at a top of each page for easier identification of article copies in an Electronic form in particular. It contains the author's surname and first name initial .article title, journal title and collation (year, volume, and issue, first and last page). The journal and article titles can be given in a shortened form.

### Author's Name

Full name(s) of author(s) should be used. It is advisable to give the middle initial. Names are given in their original form.

### Contact Details

The postal address or the e-mail address of the author (usually of the first one if there are more Authors) is given in the footnote at the bottom of the first page.

### Type of Articles

Classification of articles is a duty of the editorial staff and is of special importance. Referees and the members of the editorial staff, or section editors, can propose a category, but the editor-in-chief has the sole responsibility for their classification. Journal articles are classified as follows:

#### Scientific articles:

1. Original scientific paper (giving the previously unpublished results of the author's own research based on management methods).
2. Survey paper (giving an original, detailed and critical view of a research problem or an area to which the author has made a contribution visible through his self-citation);
3. Short or preliminary communication (original management paper of full format but of a smaller extent or of a preliminary character);
4. Scientific critique or forum (discussion on a particular scientific topic, based exclusively on management argumentation) and commentaries. Exceptionally, in particular areas, a scientific paper in the Journal can be in a form of a monograph or a critical edition of scientific data (historical, archival, lexicographic, bibliographic, data survey, etc.) which were unknown or hardly accessible for scientific research.

**Professional articles:**

1. Professional paper (contribution offering experience useful for improvement of professional practice but not necessarily based on scientific methods);
2. Informative contribution (editorial, commentary, etc.);
3. Review (of a book, software, case study, scientific event, etc.)

**Language**

The article should be in English. The grammar and style of the article should be of good quality. The systematized text should be without abbreviations (except standard ones). All measurements must be in SI units. The sequence of formulae is denoted in Arabic numerals in parentheses on the right-hand side.

**Abstract and Summary**

An abstract is a concise informative presentation of the article content for fast and accurate Evaluation of its relevance. It is both in the Editorial Office's and the author's best interest for an abstract to contain terms often used for indexing and article search. The abstract describes the purpose of the study and the methods, outlines the findings and state the conclusions. A 100- to 250-Word abstract should be placed between the title and the keywords with the body text to follow. Besides an abstract are advised to have a summary in English, at the end of the article, after the Reference list. The summary should be structured and long up to 1/10 of the article length (it is more extensive than the abstract).

**Keywords**

Keywords are terms or phrases showing adequately the article content for indexing and search purposes. They should be allocated heaving in mind widely accepted international sources (index, dictionary or thesaurus), such as the Web of Science keyword list for science in general. The higher their usage frequency is the better. Up to 10 keywords immediately follow the abstract and the summary, in respective languages.

**Acknowledgements**

The name and the number of the project or programmed within which the article was realized is given in a separate note at the bottom of the first page together with the name of the institution which financially supported the project or programmed.

**Tables and Illustrations**

All the captions should be in the original language as well as in English, together with the texts in illustrations if possible. Tables are typed in the same style as the text and are denoted by numerals at the top. Photographs and drawings, placed appropriately in the text, should be clear, precise and suitable for reproduction. Drawings should be created in Word or Corel.

**Citation in the Text**

Citation in the text must be uniform. When citing references in the text, use the reference number set in square brackets from the Reference list at the end of the article.

**Footnotes**

Footnotes are given at the bottom of the page with the text they refer to. They can contain less relevant details, additional explanations or used sources (e.g. scientific material, manuals). They cannot replace the cited literature.

The article should be accompanied with a cover letter with the information about the author(s): surname, middle initial, first name, and citizen personal number, rank, title, e-mail address, and affiliation address, home address including municipality, phone number in the office and at home (or a mobile phone number). The cover letter should state the type of the article and tell which illustrations are original and which are not.

**Address of the Editorial Office:**

**Enriched Publications Pvt. Ltd.**  
S-9, IInd FLOOR, MLU POCKET,  
MANISH ABHINAV PLAZA-II, ABOVE FEDERAL BANK,  
PLOT NO-5, SECTOR -5, DWARKA, NEW DELHI, INDIA-110075,  
PHONE: - + (91)-(11)-45525005