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June 2015

Editorial Note

Business education has these days become a procurement exercise. In all significance, its main objective must be the moral and ethical adaption of our corporate system. Yet, if our business teaching does not integrate into our corporate culture and our business curriculum does not reach into the farthest concerns of our corporate society, the instruction and training in our business schools will remain an exercise for a lot more to desire, the enduring consequence of what we are practicing in our business schools and with such abundance say so much more that words can say.

The seventeenth issue of the Journal of Business Strategies contains four research articles and two case studies.

The first paper "The Impact of Japanese Economy by Emotion Sensing communication" is a joint venture of Dr. Hiranao Takahashi, an internationally accredited technologist and Rikyo Takahashi, researcher, both from Japan examine the Japanese economic crisis by increasing GDP in the last two decades. In this article they propose Emotion Sensing web service.

The second paper "Conflict Resolution in supply Chain Collaboration: A Perspective of Supply Chain Managers" written by Mohammad Shaiq, Rabeel Shaikh, PhD scholars under careful supervision of Prof. Dr. Akhlas Ahmed discuss Supply Chains, owning to their complex interactive networks are prone to conflicts, which if not appropriately handled may crush with greater losses. Being professionals working into the industry they share experiences and suggest the role of importance of communication and negotiation in resolving conflicts.

The third paper "Assessing the Level of Information Security Awareness displayed by administrative and Operational Staff of Banking Sector" assesses the awareness level of the employees of banking sector regarding information security and its management. A Karachi-based survey conducted by the researchers furnishes significant information in terms of security requirement involving money and capital.

In the present scenario of energy crisis into the megacity Karachi the fourth paper "The Impact of Marketing Mix (5 Ps) Elements on Sales of UPS: A Case of Karachi

Market-Buyer's Perspective" is timely providing analytical insight about the influencing impact of marketing mix 5 P's on sales of UPS. Rigorous testing of relationship of marketing mix with sales reveals the facts about the UPS industry.

The fifth paper "Brand Trust, Customer Satisfaction and Brand Loyalty-A cross examination by Zafarullah Chandio, Muhammad Azeem Qureshi and Shoaib Ahmed expound on significance of the brand loyalty in the competitive market environment. It also discusses the intriguing relationship between customer and producer which ultimately put effect on service, quality, value and alike.

In the sixth paper Muhammad Imran Khan opens discussion on the operational risk management in the financial institutions. He identifies the conditions in which ORM can play a vital role for the development and enhancement of the FIs.

Editor
Prof. Dr. Akhlas Ahmed

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The Impact of Japanese Economy by Emotion Sensing Communication

Hironao Takahashi, Ph.D.* and Rikyo Takahashi**

Since 1990, Japanese economy has been suffering its increasing rate of GDP due to economic crisis. But recently situation of Japanese economy is very positive and Tokyo stock exchange Nikkei market value was exceeded 20,000JPY these days. GDP is main indicator of economy measurement but the number of population and its age formation is big factor. After Dec 2004, Japanese population was decreasing and the age of more than 65 years old people are exceeding more than 30% from total population at 2015. We look at to enhance GDP value, we propose emotion sensing web service to enhance the buying power from more than 65 years old people. We selected GSR value to sense the people's emotion and design Ontology analysis engine for emotion sensing web service. Ontology rule engine was programmed by OWL, Protege API and JINA API with own inference layer. Evaluation of GSR sensing with more than 65 years old people and estimate Ontology analysis accuracy compare non Ontology analysis. It shows more than 90% accuracy. Japanese GDP impact value was also simulated under the expectable scenario of more than 65 years old people. By our simulation, the emotion sensing web service boosts the value of Japanese GDP more than 93 trillion JPY at 2040 compares the original GDP value.

Keywords: Japanese GDP, Emotion sensing, Ontology

Introduction

Japan is the world's third largest automobile manufacturing country, has the largest electronics goods industry, and is often ranked among the world's most innovative countries leading several measures of global patent filings. Facing increasing competition from China and South Korea, manufacturing in Japan today now focuses primarily on high-tech and precision goods, such as optical instruments, hybrid vehicles, and robotics. Besides the Kant region, the Kansai region is one of the leading industrial clusters and manufacturing centers for the

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Japanese economy. About the GDP of Japan, it is the third largest in the world by nominal GDP, the fourth largest by purchasing power parity and is the world's second largest developed economy.[1] According to the International Monetary Fund, the country's per capita GDP (PPP) was at $36,899, the 22nd-highest in 2013. Japan is a member of Group of Eight. Japanese GDP was enhanced by the production line expansion and investment at industry. But the buying power by people is actual motivation of the factor. Therefore, the number of population is one of main indication factor of GDP. Also, age formation of ration of people is another considerable impact factor.

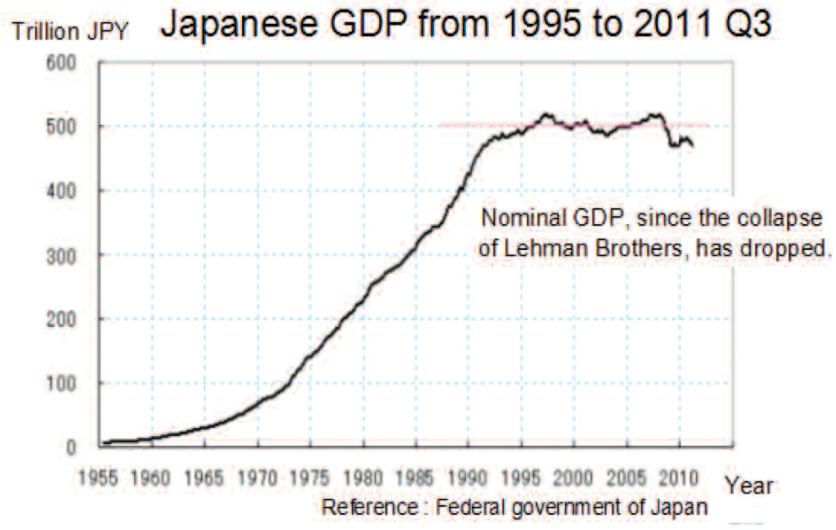


Figure 1. GDP of Japan
http://www.tdasset.co.jp/column/kamiyatakashi/vol172/img/vol172_1.gif

Now Japanese population hits a peak (127,640,000-people) and getting reducing the total number of population from DEC 2004 [2]. The main reason is less crude birth rate (CBR). Japanese CBR is 1.43 at 2013. Due to this, the age formation was changed. The ration of more than 60 years old people is 30.2% at 2010 and increasing the value year by year It will become around 40% after 2040[3]. This mean, the consumer buying power more than 65 years old people will be big factor. To enhance the consumer buying power, more fluently interoperable communication web service is required. To build rich communication, emotion sensing is one of potential technology. At Web 2.0, people can communicate with each other by Internet and can create social community. Social Networking Sites (SNS) and blogs are applications that are established by participation of these people by the manner of interoperable communication [4],

[5] & [6]. But, high quality communication between people to people is achieved by physical face to face is higher than internet communication. But, if we communicate with people's emotion, it makes better understand both of people. To sense each person's emotion, we selected GSR value to evaluate for it.

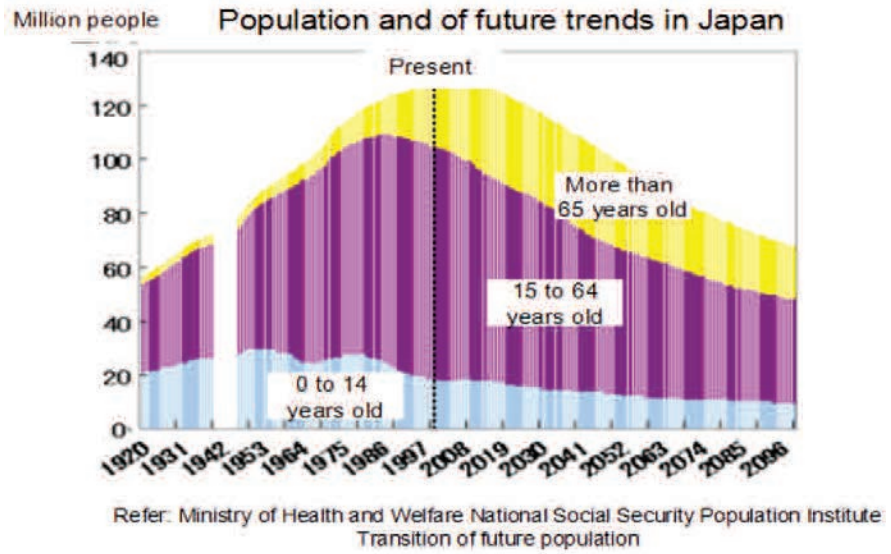


Figure 2. Population of Japan with age ratio

It utilizes the historical value of Galvanic Skin Response (GSR) and other healthcare data measures and real time measuring data [7]. The scientific study of GSR began in the early 1900s. GSR is a method of measuring the electrical conductance of the skin, which varies with its moisture level. This is of interest because the sweat glands are controlled by the sympathetic nervous system [8] so skin conductance is used as an indication of psychological or physiological arousal. There has been a long history of electro-dermal activity research [9], most of it dealing with spontaneous fluctuations or reactions to stimuli [10]. GSR value shows the human emotion situation by the value. The average value of human cell is 500-ohm and skin level is 10 M-ohm to 50M-ohms. We estimate if value is higher than average of ordinate value of user, it shows much higher positive emotion and less stress than average situation of user. To do this decision make, the service needs historical database for each user. Proposing service has own ontology rule engine for GSR sensing data for each user autonomously.

There are some ways to approach emotional sense. The capturing face situation analysis cannot evaluate quantitatively due to different describing emotion level on face by person. ECG is a limited condition measurement for example, the bed-

side terminal in hospital for patient. But proposing service is required much easier measurement for all people to communicate. Therefore, GSR measurement approach is much more appropriate.

The judgment of emotion sense utilizes real time sensing value with historical analysis data by ontology database. Using a quantitative analysis such as Monte Carlo simulation model and standard deviation from the central limit theorem is required a large amount of data to enhance the accuracy of decision make. Ontology database utilizes as basic data the history of personal information by generating ontology attribute of each entity of GSR sense data. Adopt Ontology technique to determine the feelings of individuals with high accuracy in the inference rules, by describing the conditions in Ontology Web Language (OWL). OWL makes input events even from low self-learning information that are intended to achieve a high decision making rate of emotional judgment.

Evaluation shows how users' emotion is moving every day. We estimate user's emotion by the value of GSR every time it makes a decision. To enhance the high accuracy rate, GSR value is analyzed by ontology rule that was designed by us for this service with historical data at individual person. Ontology GSR creates individual user entities and attributes. Evaluation shows higher accuracy rate in comparison with the traditional approach. Ontology analyzer achieves more than 90% accuracy of emotion situation.

The rest of the paper is structured as follows: Section 1 is introduction. Section 2 shows the impact of Japanese economy by emotion sensing service. Section 3 discusses the related works while section 4 describes architecture of Emotion Sensor Communication to Web Service. Section 5 narrates Ontology rule engine for GSR sensor. Section 6 shows the evaluation and Section 7 concludes this paper.

Related Works

In the early 1900s, one of the first references to the use of GSR instruments in Psychoanalysis is the book by C. G. Jung entitled Studies in Word Analysis, published in 1906 [11]. Wilhelm Reich also studied GSR in his experiments at the Psychological Institute at the University of Oslo in 1935-6 to confirm the existence of a bio-electrical charge behind his concept of vegetative, pleasurable 'streaming' [12]. GSR was used for a variety of types of research in the 1960s through the late 1970s, with a decline in use as more sophisticated techniques (such as EEG and MRI) replaced it in many areas of psychological research.

The Galvanic Skin Response (GSR) feedback instrument measures skin conductivity from the fingers and/or palms. The GSR is highly sensitive to emotions in some people.

GSR feedback has been used in the treatment of excessive sweating (hyperhidrosis) and related dermatological conditions, and for relaxing and desensitization training. GSR was often misunderstood as a difficult technique. GSR has gone through many phases of interest and rejection since the early 1900's. It has been used in important research on anxiety and stress levels (Fenz & Epstein, 1967) and it has been a part of lie detection (Raskin, 1973). Controversy has centered on the technique, underlying mechanisms, and the meaning of the responses obtained from the skin. There has been a long history of electro-dermal activity research, most of it dealing with spontaneous fluctuations. Most investigators accept the phenomenon without understanding exactly what it means (Hume, 1976). Although GSR is the oldest and yet most confusing term, it is also the one in common use. Many attempts have been made to improve and update the terminology. Two such systems are proposed by the Society for Psycho-Physiological Research (Brown, 1967), and Venables & Martin (1967). Electro Dermal Response (EDR) is the umbrella under which the terms fall. Basically there are two techniques in the history of electro-dermal measurement.

In one a current is passed through the skin and the resistance to passage is measured; in the other no current is used externally and the skin itself is the source of electrical activity.

GSR Physiology is easily measured and is relatively reliable. GSR has been used as an index for those who need some measurable parameter of a person's internal "state".

As in EEG, there is not a clear understanding of what the measures reflect. Physiology, the GSR reflects sweat gland activity and changes in the sympathetic nervous system and measurement variables. Measured from the palm or fingertips, there are changes in the relative conductance of a small electrical current between the electrodes. The activity of the sweat glands in response to sympathetic nervous stimulation (increased sympathetic activation) results in an increase in the level of conductance. There is a relationship between sympathetic activity and emotional arousal, although one cannot identify the specific emotion being elicited. Fear, anger, startle response, orienting response and sexual feelings are all among the emotions that may produce similar GSR responses.

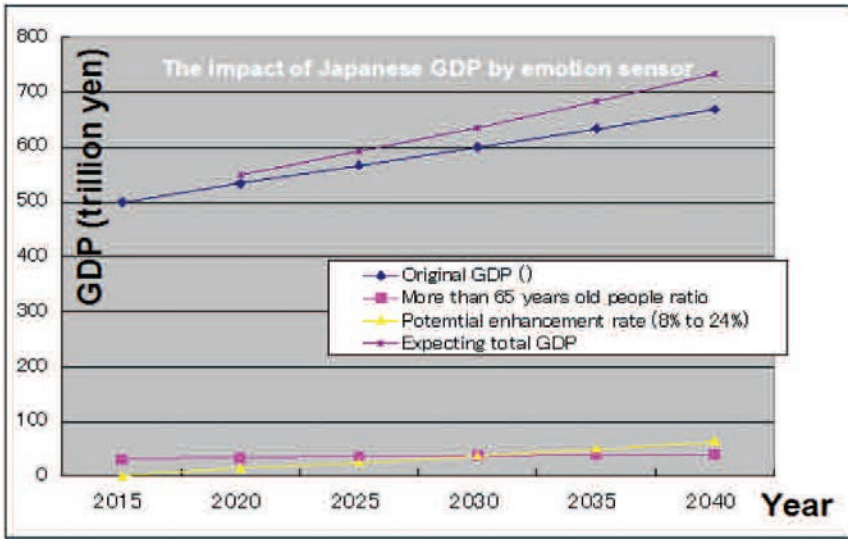
The Galvanic Skin Response (GSR) can be used for capturing the autonomic nerve response as a parameter of the sweat gland function. Due to relatively simplicity of measurement and a quite good repeatability, GSR can be considered to be useful and simple method for examining autonomic nervous system function, specifically the peripheral sympathetic system.

Physically GSR is a change in the electrical properties of the skin in response to

different kinds of stimuli. In GSR changes in the voltage measured from the surface of the skin are recorded. The main origin of the signal has been suggested to be the activation of the sweat glands. The most commonly used stimuli are an electrical shock delivered to a peripheral nerve or auditory stimuli. However, any stimulus capable of an arousal effect can evoke the response and the amplitude of the response is more dependent on the surprise effect of the stimulus than on the physical stimulus strength.

Impact of Japanese economy

If we could to enhance the social communication ability through web service with emotionally manner by GSR sensing web service, it will be a big impact factor to improve Japanese economy. The ratio of population more than 65 years old people was occupied more than thirty percent at 2015. This ratio will increase year by year and will reach around 40% by 2040. If emotion sensing web service can improve their buying power 10% by 2020, the expectable increasing buying power will be 8%. Because 80% the financial capacity in Japan is holding by more than 65 years old people. We simulate the impact of GDP increment from 2015 to 2040 and ratio of boost up the buying power from 8% to 24% (10% to 30% influences of emotion sensing web service in these people). Figure 3 shows the result of the simulation under our assumption. The service starts from year of 2015 and achieves 8% impact at 2020, then increasing the ratio up to 24% by 2040. The increment rate of Japanese GDP is follow as actual result from 2010 to 2015. It is approximate 1.2% per year. This simulation result shows Japanese GDP will be 733.224 Trillion JPY. Original estimate GDP is 669 Trillion JPY. Therefore, the impact value of Japanese GDP is 64.224 Trillion JPY.



item	2015	2020	2025	2030	2035	2040
Original GDP ()	500	534	567	600	634	669
More than 65 years old people ratio	31	34	37	38	39	40
Potemtial enhancement rate (8% to 24%)	0	14.5248	25.1748	36.48	49.452	64.224
Expecting total GDP		548.5248	592.1748	636.48	683.452	733.224

Figure 3. The impact of Japanese GDP by emotion sensing service

4. Emotion sensing web service Architecture

The architecture of Emotion Sense Communication for Web service GSR sensing data center is shown in figure 4 and the process of GSR measure for communication is shown in Figure 5.

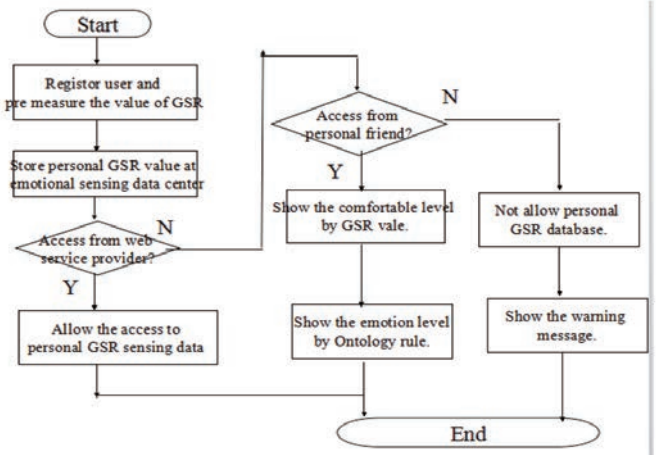


Figure 4. GSR data center process

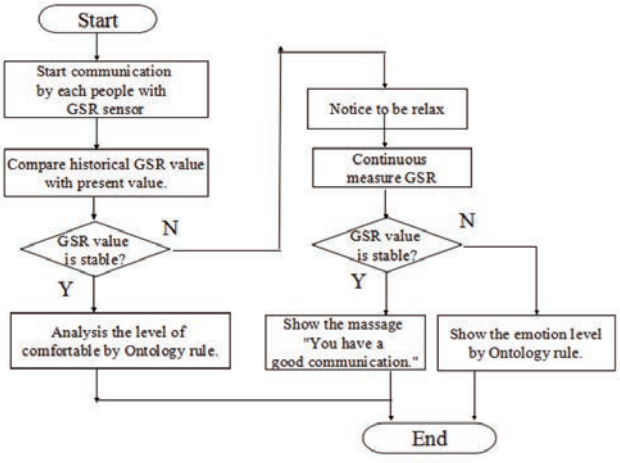


Figure 5. GSR communication process

The service is web based user who was registered to data center at bigging. First of all, the user accesses the site of service and touches his hand or body with GSR sensor. GSR sensor senses user's electric resistance and sends it to website. The data from GSR sensor is stored in to GSR ontology database in the GSR data center. GSR ontology database analyzes what is the status of user's GSR sensing value at present time in today. It is also analyzed with historical data from database. Then GSR ontology rule defined the condition of user by the value of GSR eventually. Generally, if GSR value is higher than averaged value, user is in positive emotion. If the sensed value is smaller than average value, user may have some psychological stress and is in negative emotion. The algorithm of this decision make is individual user's historical entities relationship. Therefore, decision make criteria are individual value for each user. GSR ontology is tuned by user's historical GSR value. It also adds the value of environmental factor such as weather, and user's healthcare status. Each value has weight value by the times of frequently cycle.

The sampling time of GSR and other factor from user, the GSR ontology program counts the value of each data per minute. It is greatly dependent on the sampling of the data processing time. In addition less transient effect is also cached by the data to pass. The value of sensed data was calculated by the total sum of sense data and its weight plus threshold value to judge. Basically, function and weight are main parameters. The following formula is very standard model of this decision make.

$$X_i(n+1) = f\left[\sum_{i=1}^{n} W_i X_i(n) - \theta_i\right]$$

$$Y_i(n+1) = f\left[\sum_{j=1}^{n} W_j Y_i(n) - \theta_j\right]$$

$$Z_k(n+1) = f\left[\sum_{k=1}^{n} W_k Z_k(n) - \theta_k\right]$$

Function X is GSR value, Y is weather value and Z is other health care value. Each of them is a different aspect and weight value. Basically, weight and type of data are not static but dynamic parameters. This module senses each sampling time and calculates with historical sensed data.

Ontology rule engine for GSR sensor

Ontology rule engine is utilizing intelligent web application attack protection and network security [13], [14] & [15]. Our ontology engine is designed referring these existing models.

Ontology rule engine for GSR sensor is shown in figure-6.

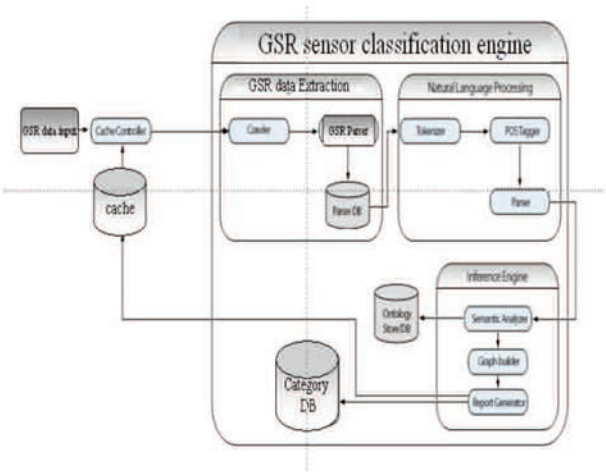


Figure 6. GSR sensor ontology rule engine

The input data are GSR sensor value, weather status and user's healthcare background database. The ontology rule was written by Ontology Web Language (OWL) and its architecture is composed of four layers as shown in figure 5. Inference layer does consistency, classification and inference by the result by the historical data with real time measured data. Rule layer is written in JENA [16] and Semantic Web Rule Language (SWRL). This layer does parsing and reasoning for rule. The ontology layer is composed by OWL API and OWL GUI. OWL GUI edits correction of data and widget. OWL API does logic cache for restriction and making of definition. The last one is conceptualization of domain layer. This layer is composed by Protégé API and Protégé GUI. Protégé GUI makes table, class and widget. Protégé API makes class, properties and individual model. All layers are connected by main Ontology database as shows as figure 7 [17]. By these layers, the accuracy of GSR sensor result is enhanced.

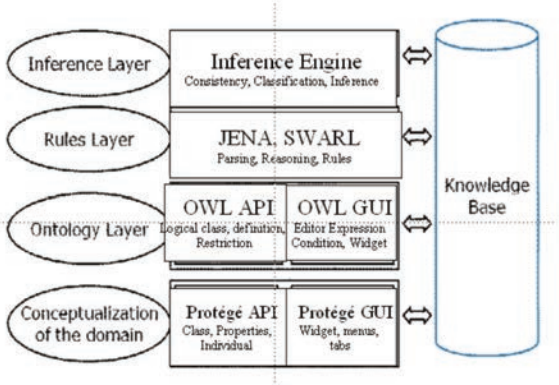


Figure 7. Ontology Design Layered Model

The class of GSR sensing data has properties, attributes system, policy, consequence, system component, input, encoding scheme, protocol and port. These classes are further sub-classified and only important one has been discussed. Class input describes the interaction of target application with other application, database, RMI or users. This class having property causing that connects with class 'Means' having subclasses 'Input Validation Error' and 'Logical Exploit'. The subclass 'Logical Exploit' is further sub-classified into the classes of 'Exception Condition', 'Race condition', 'Atomicity Error' and 'Serialization Error'.

The Ontology attribute of each entity of GSR sense data is shown in Figure 8.

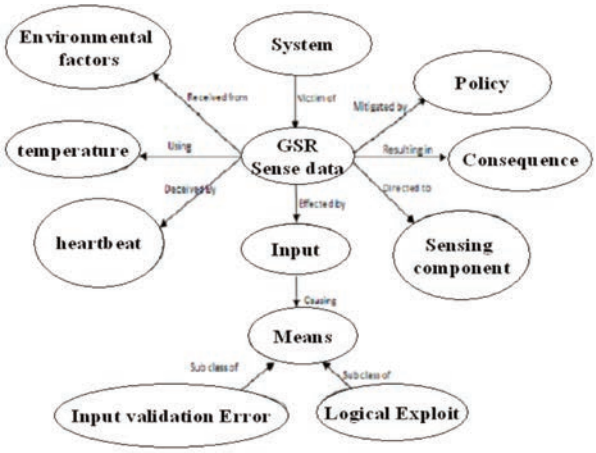


Figure 8. Ontology attribute of each entity of GSR sense data

Thus, Ontology rule engine studies by the real time measured sensor data and add ontology database to adjust more realistic value for each user.

GSR ontology has rule generator. Figure-9 is dynamic rule generation process. Every rule contains an indicator for detecting a specific GSR value of the time. Rule based reasoning is done through Inference Engine by using semantic rules and ontology model saved in the knowledge base. Inferred knowledge model given by Inference engine is queried by the Rule Generator for the generation of detection rules. Semantic Query is generated by Query builder by using Rule template. Rules Generator pass the semantic query to inferred knowledge model and populate the rule template. Rules will be stored in the Rule Cache until unless there is some update in knowledge base. Detection Rules will be fetched by the Analyzer from Rule Cache and it uses the Rule Grammar for parsing the Detection Rules and analyzer examines the incoming user requests and outgoing responses.

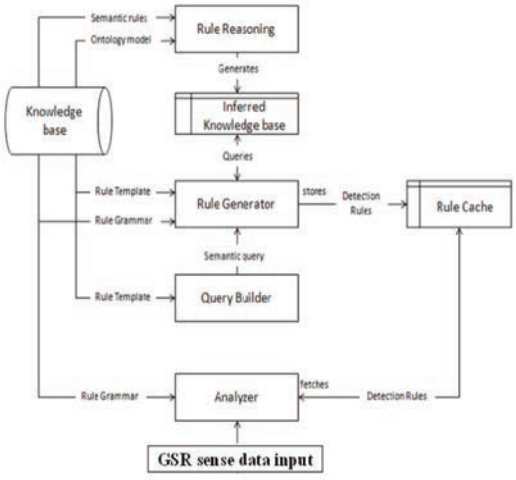


Figure 9. Dynamic Rule Generation Process

Evaluation

A. GSR sense data test

This section evaluates GSR sense data from individual user. GSR sensing data is variable from user to user. Therefore, system needs to store individual historical data logs to estimate the average value for each user.

user	age	life status	original value	Total avarage value	GSR avarage value	the result of relaxed level of emotion
A	66	no work	33	-8	25	big stress
B	65	house wife	31	0.285714286	31.28571429	Very Stable
C	74	no work	32	0.285714286	32.28571429	Very Stable
D	77	owner of business	25	-1.857142857	23.14285714	Good
E	67	women	28	0.285714286	28.28571429	Very Stable
F	69	no work	31	-3.142857143	27.85714286	Small stress

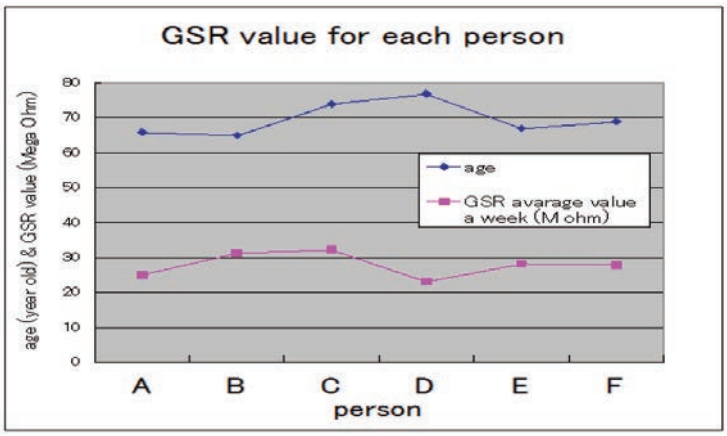


Figure 10. GSR sense data result by multiple users

Figure 10 is GSR sense data result by multiple users. Testing equipment is GSR sensor (original made) and measurement tool by MT-4520 digital multiple testers from mother-tool Inc and Windows XP SP3 OS with testing monitor tool from tester. A to F users are already registered in this service. The service measures whenever there is log in by user. The service stores all sensing data by date and by time. Sensing data is variable and changes day by day. Therefore, the result of GSR ontology sense for human emotion is influenced by these situations. It also shows user's sex type and occupation. The human emotion is very sensitive by personal mind stability. It also shows daily basis behavior. The all of them are more than 65 years old. 66 years old men (A) who has no work is un stable condition. But two women 65years old (B) and 66 years old (E) are so stable. 67 years old (C) is also stable. The point of this result, we notice their emotion condition and give some adjustment by from web service or other people's communication. By the communication, they may more stable.

user	age	the result of relaxed level of emotion	Mon	Tue	Wed	Thu	Fri	Sat	Sun
A	66	big stress	29	32	31	29	15	18	21
B	65	Very Stable	31	30	38	31	29	29	30
C	74	Very Stable	32	28	37	29	32	31	37
D	77	Good	20	19	21	25	26	26	25
E	67	Very Stable	28	29	31	26	27	28	29
F	69	Small stress	19	22	30	33	39	29	23

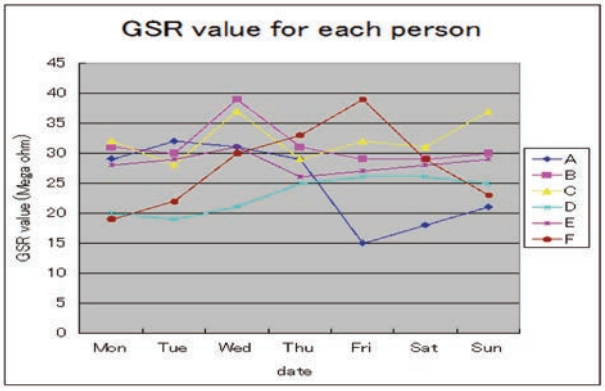


Figure 11. GSR value for each person

The daily based GSR value shows different center of value. This is a one of indicator of emotion level. But the most impact factor is stability of the value each second. We need to consider this view point for evaluation. Figure 11 is GSR weekly value for each person.

B. Ontology engine accuracy level simulation

Evaluation carried out here includes GSR historical sense data with real time

measure GSR sense data. The traditional real time measure of GSR sense data in both case are same accuracy as 50%. And historical GSR sense data is adjusted once a seven on ontology approach but traditional GSR model doesn't consider this value. It is always considering real sensing data only. Therefore, ontology GSR sensing accuracy result can maintain higher than traditional real time measure sensing data model. Accuracy rate is time consuming factor. In this simulation, we utilize exp (-rt) curve.

$$P(GSRhist) = \sum_{i=1}^{n} P(GSRhist) * e^{-rt}$$
$$P(GSRreal) = P(GSRreal) * C$$
$$\therefore$$
$$P(total) = P(GSRhist) + P(GSRreal)$$
$$= \left(\sum_{i=1}^{n} P(GSRhist) * e^{-rt} \right) + \left(P(GSRreal) * C \right)$$

Here,
P(GSRhist) = GSR historical sense data accuracy
P(GSRreal) = real time measure sense data of GSR

Figure-12 is Ontology GSR accuracy vs. traditional GSR sensing accuracy. The accuracy rate of ontology maintains from 99.17% to 94.49% but traditional real time measure model is getting low accuracy. In this case, it drops 65.57% after 35 days. The reason of this result comes from advantage of Ontology database. Its rule utilizes historical data to adjust the average value of GSR for each user for high accuracy rate.

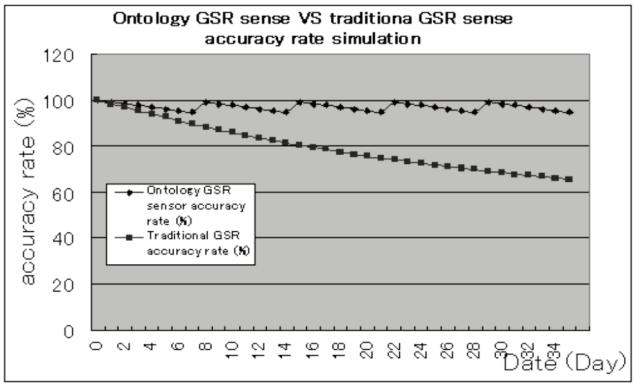


Figure 12. Ontology GSR accuracy vs traditional GSR sensing accuracy

Conclusion

Since last two decade, Japanese GDP did not improve so much. To consider the impact of Japanese Economy, we are looking at GDP value in Japan. The big impact factor for GDP is the number of population and its age formation. We

looked at the age formation and the consumer buying power by more than 65 years old people in our research. We propose emotion sensing communication for web service to these people to improve their buying power. The implementation of our proposal, we selected GSR sensing value. GSR value is indicator for human emotion stability by measing the resistance of electric in the cell of body. We measure GSR value and design its analysis methodology by Ontology analysis database which was programmed by OWL language, protege API and JINA API. We also developed the inference layer.

Ontology analysis is non quantitive model. Therefore, this implementation does not require pre teaching data. This is good advantage for this scenario of web service. The evaluation of GSR sensing with over 65 years old was shown at evaluation section. Some people are stable value but some people are not. The absolute GSR value is just one of factor but the stability of value per second is much more important to observe people's emotion real timely. We need to investigate more details of behavior of Japanese old people by our future research to capture the behaviour of this age of people.

We evaluate the impact of Japanese GDP by the scenario of predictable situation. The evaluation shows the increasing value of GDP after emotion sensing web service 64.224 Trillion higher than original estimated Japanese GDP value at year of 2040.

The potential application of our proposing emotion sensing web service, one is remote healthcare service with emotion sensing for elder people. The cure of people needs physical treatment with mental care. Emotion sensing web service is good for rural area people too. Other potential application is web radio and web TV service. Traditional web Radio and web TV are the broadcasting service model from their broadcast station. But if emotion sensing function was implemented, it will be a very high quality interoperable web channel which can indicate the listener's emotion real timely. The next step of our research, we will evaluate the actual enhancement of people's interest under the potential applications in the different market field. We are also going to investigate the type of people's behavior from GSR value at each age of people with different region and countries.

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Conflict Resolutions in Supply Chain Collaboration A Perspective of Supply Chain Managers

Mohammad Shaiq*, Rabeel Shaikh and Akhlas Ahmed*****

Be it at personal level or between different companies, conflicts are undesired but unavoidable byproduct of collaboration. Supply Chains, being bigger and complex interactive networks of generally diversified businesses, are more prone to severe conflicts and crises. If not handled appropriately at initial stages, even the routine tiny operational problems between chain partners escalate to bigger conflicts and crises which resultantly defeat the very purpose of collaboration. The ultimate solution lies in the collaborative resolutionary approach of supply chain managers who should never stop communicating with conflicting parties. Negotiation with concerned parties on conflicting issues is the only tool to avoid or to resolve them. Successful managers, while handling conflicts, should think about collective interests of the whole network and not for the interests of individual partners. The whole chain wins only when everyone in the chain wins. This paper presents the experience and opinion of a sample of successful supply chain managers working in UAE which is by far ethnically and culturally the most diversified logistical hub of international trade. The sample statistics emphasize the role and importance of communication and negotiation in resolving conflicts even in a highly culturally and ethnically diversified environment.

Key Words: *Supply Chain Network, Buyer-Seller Relationship, Conflict Resolutionary Approach*

Introduction

In the last two decades the rapid growth and advancement in information communication technology has not only changed the social life style of almost every individual but has also influenced the global business environment. On one

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hand the advancement in communication technology provided more business opportunities for international trade but on the other hand it made competition so wild and fierce that almost all businesses had to review their competitive strategy. The intensity of competition created a very strange situation where companies were compelled to adopted the concept of cooperate-to-compete. As stated by Razmi & Haghighi (2014), due to severe competition the companies preferred to join hands together and establish functional chains of interdependent companies to be able to compete with other companies or similar chains instead of directly competing with companies on one-to-one basis.

Min & Zhou (2002) stated that over past few years businesses have realized the effectiveness of combining business functions with other organizations in horizontal and vertical links and as the latest approach the businesses have realized the strategic and operational importance of inter-organizational collaboration and designing and implementing a supply chain as a functional uit. Deliberate formation of chain has become a normal business phenomenon and as per Barutçu, Dogan, Barutçu, & Kulakli, (2010) it is no more an option rather it has become a necessary part of competitive strategies. Although as stated by Razmi & Haghighi (2014), the handling of buyer-supplier collaboration is a sensitive issue as on one hand it results in valuable benefits for both parties but simultaneously such close bonding also triggers many differences, problems and conflicts too which need to be properly handled and resolved immediately. Conflicts negatively affect the performance of the collaborative chain as a whole and so resultantly everyone in the chain is a loser. All management scientists agree upon the fact that proper handling and management of mutual conflicts is the key to manage a chain successfully. Conflicts are unavoidable but proper communication and coordination mechanism with collaborative resolutionary approach can dilute the intensity and frequency of conflicts.

The objective of this article is to explore what is the nature and main reasons of conflicts between supply chain partners and how effective the negotiation tool is in resolving conflicts arising between supply chain partners and especially between buyer and seller. This research was carried out on the basis of information collected through a formal survey with professionally high profile managers involved with the designing, implementation and managing supply chain networks and in maintaining partner relationships, especially the buyer-seller relationship. Also some qualitative information was gathered with the help of few one-to-one post survey discussions with few of the respondent managers.

Liturature Review

Supply Chain- A Collaboration or Dependency

A supply chain network as mentioned by Min & Zhou (2002) can be referred to as an integrated network resulting from collaboration of various organizations with the intention to synchronize identical and inter-related functions and process to

1. acquire raw material (*which is buyer-seller relationship*)
2. better production planning (*with production outsourcing partners*)
3. adding value to product (*with other support service partners*)
4. faster and effective distribution and (*with channel partners*)
5. for prompt exchange of appropriate information (*with all chain partners*)

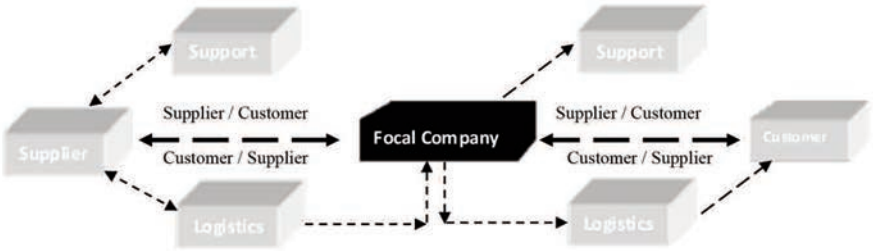
In an inter-organization Supply Chain Collaboration (SCC), the business partners and members of the chain are not only directly or indirectly linked to cooperate or support each other but also have mutual interdependence which they accept only to achieve their individual goals and targets. In such collaboration the partners in the link also share each others' tangible and intangible asset. Kumar & Dissel (1996) using Thomson's "interdependence" view of the organizational network mentioned three different ways in which all organizations in a network are dependent on each other.

1. Pooled Dependency: where different organization share common assets.
2. Sequential Dependency: where the output of one organization is the input of other organization.
3. Reciprocal Dependency: where all organizations use each others' output as their input.

The higher is the level of mutual interdependence the greater is the possibility of differences and conflicts among network organizations and so supply chain member organizations are more vulnerable to these conflicts. Barutçu, Dogan, Barutçu, & Kulakli, (2010) are of the opinion that one of the major disciplines of supply chain management is conflict management itself. Conflict is an undesired but unavoidable phenomenon of functional interaction either within any company or with chain partners like suppliers, customers, logistics service providers or any other support service provider.Nancy Cantor, the chancellor and president of Syracuse University (June 2007) said that "I assume that every collaboration will bring conflict".

Supply chain is the most common collaboration in current business environment. In a supply chain, for a focal company, the suppliers and suppliers'

suppliers sit in the upstream flow of the chain and customers and customers' customers are part of downstream logistics movement. Except for the end-user every member in the middle of chain plays both roles; the role of buyer and the role of supplier and almost every conflict in a supply chain is virtually a buyer-supplier conflict whether the purchase and sale is of product or service. Except for few conflicts with other service providers.



Normal supply chain networks are basically a type of sequential dependency network where a focal organization is wholly dependent on its business partners. For the supply of raw material it depends on its suppliers and for distribution it depends on various distribution channel partners. Also it is dependent on the logistics service providers, if any, for its upstream and downstream logistics. Wilding and Humphries (2006) defined management of supply chain as an strategic management of the collaborative network of different businesses involved in the down-stream distribution and upstream production processes. The higher is the number of members in the chain or network, the greater will be the probability of operational conflicts within the collaborative network.

Min & Zhou (2002) advocating the idea of minimizing the number of partners in a supply chain state that inclusion of all potential partners from different levels might complicate the concept of strategic collaboration. Alos mentioned by Wilding & Humphries (2006), an efficient supply chain tries to minimize the number of suppliers to maintain good mutual relationship. Further discussing the collaborative relationship in supply chain authors referred Peck et al, (2000) and Scott & Westbrook (1991) and said that the number of members in any supply chain collaborative network should not exceed more than the minimum required umber to minimize the conflicting goals of different members organizations and to concentrate more on the performance of overall supply chain.

Conflicts and Buyer-Supplier Relationship

If not the concept but at least the definition of conflict, as presented by various researchers, itself is conflicting and controversial. Even various Social Scientists

and Psychologists have given different definition and meanings to this very important and sensitive phenomenon. Management scientists have also explained it through various perspectives. According to Thomas (1992) as cited and stated by Kozan, Wasti & Kuman,(2006), Conflict is a process which initiates quietly when either of the parties starts thinking that his interests are being frustrated by the other party. In literature, conflict is defined in different ways emphasizing its different characteristics but Razmi & Haghighi (2014) referring Pondy (1967) presented the most comprehensive definition saying that conflict is the byproduct of human interaction. People who are functionally interdependent but perceive conflicting goals, contradictory aims and contrary values and who feel the opposite party is potentially interfering with the realization of the goals, end up having conflicts.

Since supply chain is a man-made link and purposely crafted partnership between parties, having different if not contradictory targets and missions, to achieve few similar targets for mutual interests but as per Levine, (2012) supply chain if not managed properly helps breeding conflicts because it is inherent in the system. Discussing the reasons which mainly trigger conflicts between supply chain partners and more specifically between buyers and suppliers, Barutçu, Dogan, Barutçu, & Kulakli, (2010) are of the view that main reasons between such conflicts are 1) partners in the chain have different objectives 2) a prevailing sense of mistrust between partners 3) weakness in operational structure 4) lack of cooperating spirit 5) substandard quality of communication and providing in sufficient information or stating half truth. Out of all above reasons, it seems that reason number two is the controlling factor for all other reasons which might trigger conflicts in buyer-seller collaboration.

Paiva, Phonlor, & D'Avila, (2008) suggest that the good buyer-supplier relationship requires strong mutual trust on each other and confidence on the system. Mutual cooperation, effectiveness of agreed procedures, operational transparency and appropriate communication are the key constituents for trust development in any network strengthening the bonding in buyer-supplier relationship. Kumar & Dissel (1996) are almost of the same view and state that the level of structure, strength of the network structure and degree of bonding between buyer and seller actually influences the possibility and potential for the severe conflicts to arise. They further think that a clear agreement between buyer and seller on mutual expectations reduces the ambiguity in the functional relationship otherwise there is a possibility of misunderstandings and misinterpretations resulting in disagreements. Operational problems are inevitable in any business process. The efficiently formulated processes are flexible and intrinsically capable enough to accommodate minor operational

issues but sometimes apparently very minor problems, if not tackled properly, turn into a major crisis.

Continuous Negotiations – A Resolutionary Approach Towards Conflicts

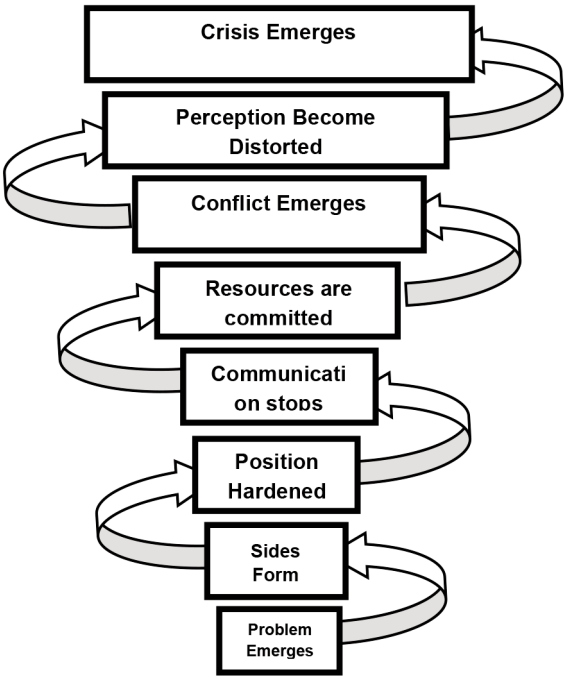
Conflicts are inevitable in buyer-supplier relationship or for that matter in any sort of human and business relationship. Barutçu, Dogan, Barutçu, & Kulakli, (2010) are of the view that conflicts, to an optimal level, do stimulate improvement, innovation and creativity but beyond a certain limit they damage supply chain relationship in general and buyer-supplier relationship in particular. Conflicts beyond a tolerable intensity or frequency must be taken care of and be immediately resolved. A good conflict resolution system must be able to handle conflicts effectively and efficiently. Conflicts if not handled properly they prove to be very costly. Razmi & Haghighi (2014), referring three different studies mentioned that 24% to 60% of supply chain managers' energy ad time is spent on in handling and resolving conflicts of varying natures and intensity at different functional levels which ultimately adversely impacts supply chain performance, benefits and profits and increases stress at workers too. Thomas (1976) cited by Barutçu, et. al., (2010) presented the following five response styles from management to handle conflicts.

1. Competitive – one partner tries to dominate the process without any regards to other partner
2. Collaborative – partners try to find difference and try to achieve a mutually acceptable solution
3. Avoidant – conflict is evident but suppressed or avoided by one or more partners
4. Accommodative – one partner sacrifices own interest for the over all interest of the chain
5. Sharing – each member sacrifices something to reach compromise and resolve conflict

Whatever is the type of response or way to handle a conflict, managers' approach should always be resolutionary, as sitting on an unresolved problem is like sitting on a time bomb. Results are very predictable if conflicts are not resolved at the earliest stage. Resolving conflicts in buyers-suppliers network is not an easy task as networks are complex in nature and sometimes they are like a conglomerate of organizations of much diversified in nature.

O'Leary & Bingham (2007), referring Carpenter and Kennedy's (2001) idea of *spiral of unmanaged conflict* emphasized the importance of communication

states that when small usual and routine operational problems are ignored or avoided and not addressed as they emerge then they escalate into bigger conflicts and later on mount to crisis.



The key to stop and avoid bigger problems is to address them at very initial level. It is further emphasized that the most needed and important skills and qualifications for a supply chain manager are to be able to negotiate and bargain and that comes through appropriate communication. According to Jenaibi,, (2012) the prime step for effective communication is to understand what is business communication. Then one should know the possibility of variations in communication and should have the ability to properly interpret the communication in a productive and positive manner. Supply chain manager should also be able to make effective choices on ways to communicate across the whole supply chain. The best way to solve a conflicts is collaborative problem solving ability through communication. Negotiating strategy is the name of focusing on collective interests where every negotiators' needs are satisfied as much as possible. Discussing the concept of resolutionary thinking for resolving conflicts Levine, (2012) states that resolutionary thinking is not "*you or me*" rather it is "*you and me*". Collaborative solution for any conflict is the collective thinking which takes care of "*our problems*" and not "*your problem or my problem"*. He further emphasizes that most successful form of negotiation especially in case of

conflicts in buyer-seller relations is when buyer tries to meet sellers' needs and seller tries to meet buyers' needs.

Method

To explore the nature, reason and resolution processes of conflicts arising out of business collaboration within supply chain partners and especially between buyers and sellers, a very simple questionnaire was designed and sent to sixty active and professionally recognized business managers to answer simple questions about the reason, nature and resolution method. The main purpose of this survey was to see how effective the negotiation tool is in resolving conflicts arising between supply chain partners and especially between buyer and seller.

Since the demarcation between an operational problem, a conflict and a crisis is not very simple and its definition might vary from organization to organization so the following criterion was used to differentiate problem with conflict and conflict with crisis.

- Any problem which was resolved at the functional level involving line managers and mid-level management without the intervention of senior and corporate managers is considered as a routine problem.
- Any dispute which did not come under the definition of routine operational issues and was beyond the limits and resolving capabilities of functional managers and because of its sensitivity the matter was taken up and handled by senior corporate managers is considered as a conflict.
- Any conflict which could not be resolved even with the involvement of senior corporate managers and resulted in the stoppage of functional relationship is considered as a crisis. Such issues are either resolved through third party involvement and arbitration or through court of law so are considered a crisis.

The sample for this survey was not the business organizations but it was comprised of supply chain managers and business managers involved with the management of supply chain and partner relationship. For the following reasons, researchers and authors of this paper decided to survey supply chain professionals instead of businesses.

- Different companies belonging to different industries and to different regions have different definitions of business relationships and conflicts.
- Usually businesses are reluctant to disclose and discuss their disputes and conflicts with their suppliers and buyers even if those conflicts are resolved.

- The objective of this article was not to study any specific industry or specific region rather it was to find out what concerned managers' feel about those crises without mentioning the name of their companies or conflicting parties.

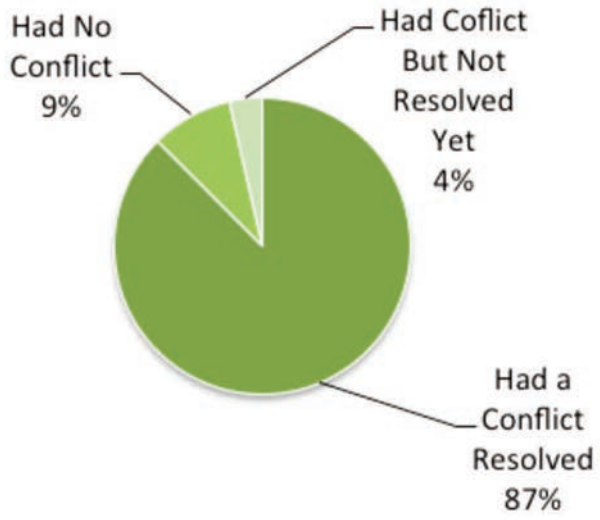
Sample of senior business professionals who are either currently actively involved or have been involved with the strategy, design and management of supply chain networks mostly in manufacturing or distribution environment was selected on the basis of self convenience. Since the survey was general in nature and region was not any influencing factor, so the respondents were not from any specific region although the major part of sample was selected from the senior members of various supply chain think tanks or from professionals belonging to different supply chain professional forums, bodies and societies. Following are few groups and forums of supply chain professionals from which sample is selected.

- The Logistics & Supply Chain Networking Group
- Operations & Supply Chain Group for Academics & Practitioners
- Supply Chain Management Group
- Warehouse Professionals in The Middle East
- Transport & Logistics
- Supply Chain & Logistics Group
- Supply Chain Movement
- Multimodal Group

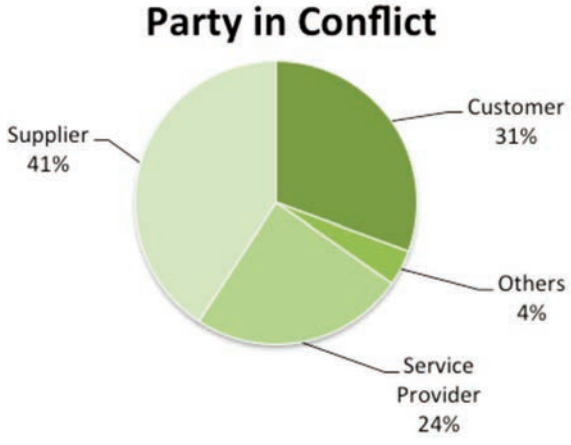
Almost all sample members are very senior business professionals having long experience of dealing with buyer-seller relationship or overall supply chain management. The author also got the opportunity of post survey informal interviews with few of the respondents to get their point of view regarding the conflicts they faced and their resolution strategy. Since this article is exploratory in nature and does not involve any sophisticated statistical models so results of survey are presented in simple graphical and tabular form.

Result

There was a high number of respondent managers 91% who faced a conflict at least once with any one of their chain partners be it a buyer or seller or any service provider or outsourcing partner. This does not mean that 9% did not have any sort of problems with chain partners rather there is a possibility that problem was resolved before it turned into conflict or crisis.

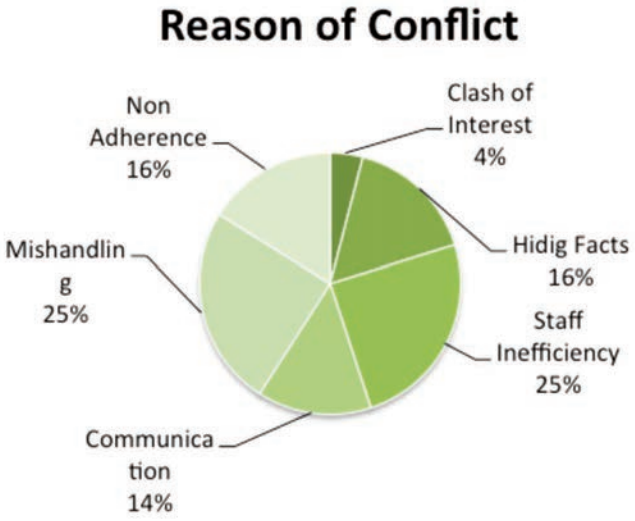


Here for discussion sake the term customer or supplier or logistics service provider is used in reference to the focal company the supply chain professional is working or has been associated with, otherwise it is not analytically important to know whether the conflict was *with a supplier* or *with a customer* because logically speaking it is same and it only depends which side of the conflict one stands. Here it can be said that more than 70% of the conflicts were related to *buyer and seller* or *customer and supplier* while 24% of the total conflicts are with logistics and other service providers.



To assess the nature, all possible types of conflicts are categorized in five major categories but as per our survey majority of the conflicts that is 41% are operational in nature while 29% relate to the clash of policy or strategic difference.

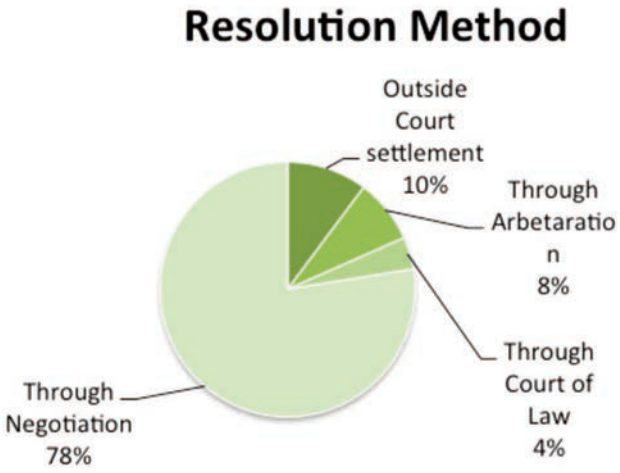
As far as the major reasons of conflicts between supply chain partners is concerned, theoretically speaking it is difficult to point out any one single reason but what our survey revealed is that the inefficiency of lower staff to handle operational problems at initial level and senior management's mishandling of issues or inability to control the situation before a problem escalates into a conflict are two major reasons of serious conflict between supply chain partners.



This result is in line with various internationally accepted theories and also verifies our theoretical framework and assumption that conflicts are the result of avoidance or initial mishandling or non-handling of problems.

As mentioned earlier, communication at different functional levels is the key to develop and maintain better understanding within business partners in any chain.

Problems do start escalating very rapidly if communication is stopped and so conflict and crises emerge. Once conflict or crisis emerges, still the only solution is to initiate communication. Listen what others say and try to communicate what your perception is about the issue. Our survey suggests that more than 78% conflicts are ultimately resolved through negotiations where all concerned parties listened to each other and tried to accommodate each other to their satisfaction.



It is evident from the graphic presentatio below that most the crises, no matter what was the reason and type, were resolved through resolutionary negotiations between the conflicting parties. Except for 63% of the crises which emerged due to an intentional dishonesty (if it is not a very hard word) that is deliberately hiding facts were settled outside the crises handling jurisdiction of concerned managers.

38% of such conflicts were settled through 3rd party arbitration and 25% were settled in court of law but such crises were very low in umbers compared to other

types of crises. Non adherence of establish procedures is also a sort of breach of operational contracts so 50% of such crises were not settled with mutual negotiations but the number of such crises is also very low.

Conclusion

This conclusion is not only based on the survey statistics but as mentioned earlier that researcher also had few post survey informal discussions with few expert chain managers on the reason and type of conflits and the tools for resolution of conflicts. Following is the summary of conclusions.

- Chain partners should always remain in contact with other chain partners rather regular meetings and routine updating sessions help avoiding any operational issues.
- Supply chain managers although are hired by individual companies but they should consider themselves sa working for the chain and not for individual companies.
- Supply chain managers instead of thinking about the interests of their individual companies they should aim for the collective interests of the whole chain.
- Any operational or policy differences should be resolved in the light of agreed or contractual arrangements between partner companies.
- The only and the ultimate key to avoid conflicts between partner companies is to listen each others' view point and should try to help solving others' problems.
- Supply chain managers should try to resolve any operation or contractual difference as soon as it arises.
- Avoidance discussing or communicating with other partner on any issue would not dilute the issue rather it escalates conflicts so concerned managers should immediately sit, discuss and try to resolve them as early as possible.
- At no stage, no matter how severe a conflict is supply chain managers should never stop communicating with each other.
- Whether it is through with mutual negotiation or through third party involvement, it is only communication which ultimately resolves conflicts between conflicting supply chain partners.
- If negotiations are done with resolutionary attitude, even the conflicts of very intense nature can be resolved through negotiations.
- No conflict is irresolvable and no resolution tool is better and easier than mutual communication.

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Assessing the Level of Information Security Awareness Displayed by Administrative and Operational Staff of Banking Sector

Sharjeel Mustafa*, Usman Ali Warraich, Bushra Shahzad Khan*** and Khurram Adeel Shaikh******

The purpose of this research is to assess the awareness level of the employees of banking sector regarding information security and its management. The banking sector is considered as one of the most critical sectors in terms of information security. Nonetheless, confidentiality, integrity and availability of information in terms of security requirements are extremely important in financial/ banking sector due to involvement of money and capital. The customers share their sensitive information with the staff and place their utmost trust on them therefore, it is mandatory for the banking staff specifically those working in branches to be well-equipped with all the information security issues and risk involved in illegal copying and disseminating the customers' information.

This research is descriptive in nature and quantitative method has been used which is based on objectivity and empiricism. Non-probability sampling technique and a survey by means of a well-structured questionnaire have been conducted with the employees of five renowned banks located in Karachi. The sample size is 150 employees working in 15 different branches of the banks. The sampling frame is based on Administrative & Operational staff as they are frequently involved in handling and preserving information assets in their respective branches. The statistical technique; one sample T test has been used to check the mean difference between the assumed and actual values at the significance level of 0.05.

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The findings of the study explicitly reveal that at this point in time, employees do not possess adequate knowledge about information security and its management as all the six hypotheses are rejected and significant value in each case lies greater than 0.05.

The less awareness level displayed by the bank employees regarding information security calls for identifying their untapped needs and in this regard, concentration on Training Need Analysis (TNA) should be paid due heed as information security and its timely management specifically for the banking sector is crucial because people invests money, keep personal belongings and sometimes place sensitive documents to run the mortgage process smoothly. On the contrary, theft or illegal use of such information assets by unauthorized parties may jeopardize the image of the bank and could lead to bankruptcy.

***Keywords**: Information Security, Banks, Confidentiality, Integrity, Availability.*

Introduction

Information is considered a crucial component in modern day organizations. Besides other organizational assets, information being an intangible asset plays a role of oxygen. In the knowledge based society, only those organizations could survive who value and preserve their information in a comprehensive manner. Moreover, it is a key to gain competitive advantage over rivals. This description springs out the need to define information which may be succinctly explained as ‘’the meaning and interpretation given to data or facts that can be applied to make products, provide services and design processes, etc.

There are numerous risks and threats involved like; stealing personal information, mishandling monetary transactions, damaging database, etc. but they can be reduced to a great extent. Secure information can widely contribute in attaining the international standards (ISO – 27000/27001) and also greatly reduce the additional work of any possible legal actions against banks.

The assurance of high security of information assets transmitted through various media is increasingly gaining importance in the modern age and for profit and not for profit sectors show signs of concerns towards this underlying issue. Moreover, breaching of security requirements occur not only due to technical problems but sometimes human interventions are vital in creating hindrances.

The CSI Computer Crime and Security Survey (2008) revealed that 51% of respondents accepted the fact that information security issues are caused due to outside intervention hence 44% are of the viewpoint that inside intervention is widely becoming the bone of contention. Likewise Ernst & Young's most recent study (2009) focuses on the internal threats and risks which is growing frequently and 25% of respondents have noted an increment in internal assaults and 13% in internal frauds.

Kowalski et al (2008) asserted that almost every organization in the present day is prone to information security issues and ignorance in terms of less working hours at the end of employees is creating gaps in the smooth flow of work.

The vast amount of literature based on information security and its management reveals that end users and service providers are held responsible for deficiencies of information systems.

The various media used to preserve information assets are thoroughly analyzed and their relative importance is also kept in consideration.

Richardson (2011) drew attention towards training of employees so they can tackle and handle information security issues in the best possible manner. It is essential for the banking staff especially those involved in day to day operations to be completely cognizant of the data security strategies and methods otherwise they cannot realize and understand the threats of misusing information systems and the potential harm that can be happened.

Jirasek (2012) reported that deep understanding of risk assessment and its timely treatment is important as business procedures, way of doing business, technology and ultimately peoples' mindset are on the brink of change and subsequently; it may give birth to new kind of threats and risks to the protection of information.

The awareness with the information security and its management can help the employees to value and store information as modern scholars are of the viewpoint that value of business lies in the information it secures. Thus, the last resort for organizations today is to make mindful investments so they can gain competitive advantage over their rivals.

JNSA (2010) reported that rate of human error decreased to 7.9%, incidents occurred in administration raised from 5% to approximate 51%. The

aforementioned statistics calls for novel approach to tackle data security matters.

Information security demands proper asset identification, risk assessment, risk treatment and ultimately the wit and grit of the higher management. Some countries have taken concrete measures to address the underlying issue of information security and legislation in terms of laws and legal rights have been enforced such as; Data Protection 1998 which overwhelmingly protect individuals so their personal information cannot be illegally shared with other individuals/ organizations and to name some others laws are: Copyright Designs and Patents Act 1988, Computer Misuse Act 1990, Electronic Communications Act 2000, etc. The major breakthrough has been made with the introduction of BSi standard on Information Security Management.

The guidelines for preservation of information security have been given to the enterprises by the Organization for Economic Co-operation and Development (OECD) in 2002 to support nations and companies to build a system for securing information structure. They are as follows:

- Increase awareness of threats and security for information systems.
- Provide a general structure for improvement and implement practices, standards and policies to enhance information system security and advance collaboration between public and private sectors.
- Enhance trust in information systems, their usage and enforcement.
- Improve national and worldwide process, usage and information systems security.

The knowledge and mindfulness about the security and protection of information systems is very important for every organization so it is very essential for the representatives, clients, dealers and other related stakeholders to be completely cognizant with the different types of risks and dangers expected to the information systems.

This research has been carried out to gauge the awareness level of employees working in the banking sector so we can better deduce how information security management system can be planned, documented, analyzed and improved.

The paper has been structured as: section 1 highlights background and introduction, problem statement, research objectives, research questions and limitations. Section 2 is based on literature review and hypothesis. Section 3 captures research methods which comprises of research design, research approach, sampling method, data collection method, data analysis and theoretical

framework. Section 4 covers data analysis which comprises of data integration, data analysis and interpretations. Section 5 is a critical debate and in section 6, conclusion and recommendations are mentioned.

Problem Statement

It has been widely observed that employees in the finance sector specifically, banking lack awareness regarding information security and its management. Ironically, they are not equipped and well-trained to address pressing issues like; identity theft, network disruptions, account takeovers and data integrity breaches.

Moreover, gone are the days when financial statements and ledgers were prepared manually and less reliance was placed to the utility of Information and Communication Technology (ICT) but in modern age, e-banking has become an acceptable norm across the world.

People can drive numerous benefits from e-banking such as; online bill payment, electronic fund transfer facility, telephone banking, money transfer between different accounts, use of automatic teller machines (ATMs) and last but certainly not the least; customers do one stop shopping that result into enriching relationships with them. But point to ponder is that it has raised a wide range of hazards in terms of information security.

In addition, information security issues are also gaining momentum as banks are paying continued and heavy reliance on outsourcing crucial tasks that ranges from recruitment, web applications to online banking systems. This step is undertaken with an aim to safe the related cost and scarce resources therefore, it is a dire need of time to spend budget on information security because;

a) Regulatory landscape is changing
b) Businesses are going concern
c) Company reputation is integral for the ultimate survival
d) Technology is emerging
e) Data breaching practices are done in a more sophisticated manner.

As a matter of fact, banks are realizing the importance of information security but constant upgrading and deploying of sophisticated software is cumbersome as it requires pool of human and financial resources. It is widely recognized that organizations fail to secure and value information not only left behind but are also prone to malware and phishing attempts made by terrorists and sometimes by company's own employees.

It is asserted that if concrete measures are not taken in a timely manner then it may cost the organization in terms of compensation paid to affected customers and

bad organizational reputation. The leadership running the banking sector has to realize that the start-up cost to deploy information security software might be high but it is high time to be adaptable and responsive to change. Nowadays, banking is not widely done by bricks and mortars (branches) rather a ‘’click culture’’ is increasingly applied by most of the banks in Pakistan. There is no denying of the fact that banks have to encounter unique challenges but the last resort is to head towards innovative solutions if we want to survive in the virtual market place.

However, the underlying problems can be resolved to a great extent if the employees are cognizant with the possible threats and risks that can affect and harm organization’s crucial data.

Research Objectives

Following are the research objectives of this study.

1. To analyze whether administrative and operational staff acquires knowledge of general security.
2. To analyze whether administrative and operational staff acquires knowledge of password security.
3. To analyze whether administrative and operational staff acquires knowledge of computer viruses.
4. To analyze whether administrative and operational staff acquires knowledge of email and internet.
5. To analyze whether administrative and operational staff acquires knowledge of identity theft.
6. To analyze whether administrative and operational staff acquires knowledge of incident reporting.

Research Questions

RQ1: Is the Administrative and Operational staff well-equipped to manage general security?

RQ2: Is the Administrative and Operational staff well-equipped to manage password security?

RQ3: Is the Administrative and Operational staff well-equipped to manage computer viruses?

RQ4: Is the Administrative and Operational staff well-equipped to manage email and internet?

RQ5: Is the Administrative and Operational staff well-equipped to manage identity theft?

RQ6: Is the Administrative and Operational staff well-equipped to manage incident reporting?

Limitations

Due to time and resource constraints, data has been gathered from only 200 respondents, out of which 150 were found reliable.

Literature Review

Information security and its management in most of the sectors like banking leads to a widening knowledge gap. However, literary work by Kessel (2009) and Gordon (2006) revealed a wide range of surveys conducted to analyze the utility of information security that calls for vast amount of resources.

The studies conducted by Gordon (2005), Dinnie (1999) and Knapp et al., (2004) addressed the pressing problem of information security in a more detailed manner but critics argue that adequacy of knowledge regarding security matters has still not seen a daylight.

Kritzinger (2009), Johnson (2006), Thomson and Von Solms (1998) and Siponen (2000) carried out extensive research that not only paid attention to the problem area but also provided guidance for content development, information transmission mechanism, emotional upheaval and other related queries.

Some worth sharing ideas have been proposed to equip the employees which includes; formulation of security policies by taking direct and related stakeholders into account, devising countermeasures to weaken the effect of threats, arranging sessions to study the mind of clients and changing the working and contact hours to apply great security propensities and these notions were presented by (ENISA, 2006), Chen & Shaw, 2006) and (Puhakainen, 2006).

On the contrary, Crowston (2000) said that continuous bombardment of information security on employees may be enchanting yet harrowing for the employees therefore a gradual process is to be adopted to achieve the desired outcomes.

Whitman & Mattord (2013) rightly identified the three features of information security such as; confidentiality, integrity and availability (CIA). Confidentiality refers to sharing of information with only those who can benefit in the long run. Integrity refers to secure the accuracy of data and protect it from any kind of manipulation and availability refers to empowering the people to have easy and hassle-free access to information to allow the continuity of work in a timely manner.

Schultz (2005) claimed that the root cause of data breaching practices should not be confined to technical problems only hence human intervention also lies behind such feeble attempts.

Yeniman Yildirim (2011) and Hou (2013) opined that organizations are

increasingly dependent on hi-tech software solutions to mitigate the risk and ensure information security. Besides, heavy reliance on it may cause hindrances and there are less chances to dispose of the risk (Cavusoglu et al. 2009; Dhillon and Backhouse 2001; Siponen 2005). The latter view was affirmed by Turner (2009) and Sterritt (2011) and they proved increase in the number of information security incidents despite the presence of innovative solutions. The overwhelming results can only be accomplished by investing in both specialized and social assets.

Saint-Germain (2005) laid attention towards ISO/IEC 17799 which explicitly figure out ten security domains such as; (1) security policy, (2) organizational security, (3) asset classification and control, (4) personnel security, (5) physical and environmental security, (6) communication and operations management, (7) access control, (8) system development and maintenance, (9) business continuity management and (10) compliance.

Coopers Survey (2013) reported that lack of training is an important issue that weakens all the interventions and arrangements done to counter the expected risks. However, study by Siponen (2000) already mentioned that adequate level of knowledge, skills and abilities (KSAs) are integral for employees and it could further help to reduce the rate of errors. Brancheau et al. (1996), Lohmeyer et al. (2002) and Ransbotham (2009) reported that organization are looking forward to give strategic importance to information security and making it an essential pillar of organizational corporate strategy. While commenting on Control Objectives for Information and Related Technology (COBIT) structure introduced by by Information Technology Governance Institute (ITGI), Mingay (2005) deduced that information technology is a dire need of time which can help the organizations to achieve their ultimate targets. The COBIT structure is based on seven information criteria: effectiveness, efficiency, confidentiality, integrity, availability, compliance and reliability. According to Damianides (2005), the main purpose of the COBIT structure is to provide guidelines which can be tailored to the organizations' overarching values and also adaptable.

The worldwide scenario for information security is not much pleasing even the developed countries are also suffering badly from it. In connection to this, Ma, Q., & Pearson (2005) said that the most common data breaching practices are due to leakage and forgery of information by unauthorized parties. Von Solms, B., & Von Solms, R. (2004) reported that 83% of the enterprises encountered information security breach which is an alarming situation. This underlying phenomenon further sought support from the findings of Damaging, I. A. A. M. (2011) who identified that 60% organizations experienced more than one cyber

security occurrences in a year. It is noteworthy to mention that information security is a complex issue and constitutes a wide range of elements from physical access control to technical or specialized solutions thus it can be better understood in the context of inter-disciplinary framework and some new studies also opening arenas for positive human intervention. Singh and Kant (2008) demanded the increasing role of higher management in this regard. Kajava et al (2007) elaborated that higher management is responsible for regulating the compelling commitments and obligations and it also allocates resources and sets the course of action. Vaish and Varma (2010) said that ideology and related activities pursue by senior management is a critical incident factor in Information Security Management System.

Hypotheses

H1: Awareness level of administrative and operational staff is significant for general security.

H2: Awareness level of administrative and operational staff is significant for password security.

H3: Awareness level of administrative and operational staff is significant for computer viruses.

H4: Awareness level of administrative and operational staff is significant for email and internet.

H5: Awareness level of administrative and operational staff is significant for identity theft.

H6: Awareness level of administrative and operational staff is significant for incident reporting.

Research Design

The quantitative research method has been carried out which is widely based on testing hypothesis, conducting descriptive & causal research and collecting structured responses.

Research Approach

This research is descriptive in nature. Descriptive research is used to describe characteristics of a population or phenomenon being studied. The purpose of descriptive research is to explore the existing phenomena. It does not answer questions about how/when/why the characteristics occurred. A descriptive study is one in which information is collected without changing the environment (i.e. nothing is manipulated).

Sampling Method

The sampling frame is consist of those banking staff who are involved in day

to day operations and handle confidential data and they are further bifurcated on the basis of seniority. The five banks located in Karachi have been selected for gathering required information from the administrative and operational staff. The sample size in this research study is 150. Ten employees from three branches of each bank (five in number) have submitted their responses.

Non probability sampling namely; convenience or accidental is used in this study that allows gathering samples in a way in which the probability of selecting every unit of the population is not equal; hence the selection is made on the basis of reach and ease.

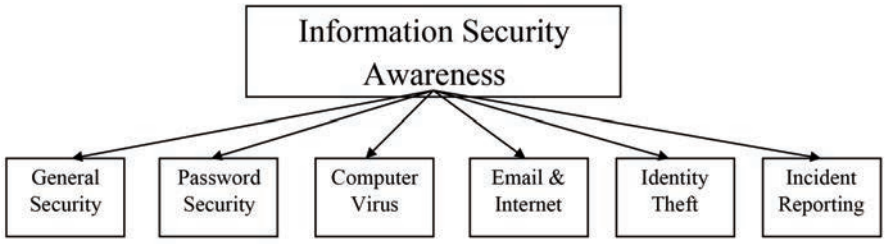
Data Collection Method

Primary method of data collection i.e. structured questionnaire has been used to gauge the awareness level of administrative and operational staff as they are directly involved in handling information security related issues therefore their feedback carries utmost importance.

Data Analysis

One-sample t-test has been used to test hypothesis.

Theoretical Framework



Data Analysis

Validity of Data

Validity measures what it is supposed to measure. In this research, factor loading is used to check the validity. Since the factor loading value of each construct is greater than 0.6 therefore it is acceptable.

Reliability of Data

Reliability produces consistent results. In this research, Cronbach's alpha value is used to check the reliability. Since, the Cronbach's alpha value of each construct is greater than 0.7, therefore it is reliable.

Data Interpretations

Table: General Security

Dimension	Factor Loading	Cronbach's alpha
General Security		0.788
My office working computer is fully secure.	0.823	
My working computer is configured to be automatically updated.	0.790	
Anti-virus software is always updated on my computer.	0.758	
Firewall is always enabled on my computer.	0.728	
It is essential to install licensed software on office computers.	0.699	
I often use my home computer to write or revise bank documents.	0.671	
The level of security training which I have received from the management of bank is adequate.	0.644	
Bank does a good job of keeping staff up to date on good security practices.	0.618	

Table: Password Security

Dimension	Factor Loading	Cronbach's alpha
Password Security		0.723
I always use secure password.	0.789	
Password must be noted down in physical terms.	0.773	
I know about the complexity of length of secure passwords.	0.758	
Passwords must be changed on a periodic basis.	0.743	
It is essential to use a unique password on every change.	0.728	
I use the same password for the office work accounts which I do use for my personal accounts at home like Facebook, Twitter or other personal email accounts.	0.713	
I usually store password by default, so there is no need to enter it every time.	0.699	
I often provide my password to my boss or senior officer.	0.685	

Table: Computer Virus

Dimension	Factor Loading	Cronbach's alpha
Virus		0.818
Any type of computer virus can corrupt the computer.	0.920	
Different types of computer viruses can affect the confidential documents in computer.	0.899	
Malware attacks can easily be tackled.	0.878	
Trojan horse virus can be easily detected.	0.858	
Updated antivirus software is very important to detect an infected file.	0.838	
Computer viruses are not harmful so anti-virus measures are a waste of money.	0.819	
Computer viruses are only caught by people who visit bad sites.	0.800	
Computer viruses are annoying but can be prevented by careful use of the Internet.	0.782	
Computer viruses are a big risk, so we should take maximum precautions.	0.764	

Table: Email & Internet

Dimension	Factor Loading	Cronbach's alpha
Email and Internet		0.701
Email is a simple, secure and private way to transmit sensitive information.	0.897	
When I receive an email, I can rely on the fact that it comes from the person in the "From" address.	0.886	
I contact to my senior officer when I receive a suspicious email.	0.875	
I think phishing attacks are not important to understand.	0.864	
The links in emails from unfamiliar sources are generally safe to click on.	0.854	
Permissions must be required for a consultant who wants to plug into the network to access bank emails remotely.	0.843	

Table: Identity Theft

Dimension	Factor Loading	Cronbach's alpha
Identify Theft		0.811
Name, address and date of birth are the main components of personal information which are used to carry out identity theft.	0.987	
Credit and Debit card details are the main components of personal information which are used to carry out identity theft.	0.956	
It is generally OK to let someone else use my work computer while I'm logged in.	0.927	
Personal identity information is easy to get so there is no any need of special protection.	0.898	
Personal identity information should only be protected if there are attempts to steal it.	0.870	
Personal identity information is closely guarded at all times to avoid identity theft.	0.843	
It is safe to share the personal details with bank's colleague.	0.817	
It is important ONLY to protect secret information relating to bank accounts.	0.792	
I always protect identifying information from unknown persons.	0.767	

Table: Incident Reporting

Dimension	Factor Loading	Cronbach's alpha
		0.823
Every employee, including myself is responsible for information security in the bank.	0.879	
Anything which seems to be suspicious should be reported.	0.860	
It is important to report security incidents to minimize the potential damage.	0.841	
Security incidents must be reported later because it can take a long time to fix.	0.822	
If I found a weakness in information security, I'll definitely try to test it if I can break in.	0.804	
Security incidents shouldn't be reported in case I am blamed.	0.769	
Security incidents should only be reported if they are important.	0.786	

Results

Statistics

	General Security	Password Security	Virus	Email and Internet	Incident Reporting	Identity Theft
N	150	150	150	150	150	150
	0	0	0	0	0	0
Mean	3.1867	2.9333	2.9133	3.0600	2.9667	3.1800
Std. Error of Mean	.10884	.11534	.11737	.11937	.11640	.11196
Std. Deviation	1.33304	1.41263	1.43745	1.46196	1.42564	1.37118
Skewness	-.193	.018	.058	.012	-.053	-.093
Std. Error of Skewness	.198	.198	.198	.198	.198	.198
Kurtosis	-1.122	-1.307	-1.288	-1.430	-1.299	-1.204
Std. Error of Kurtosis	.394	.394	.394	.394	.394	.394

Hypothesis Testing

Table: One-Sample Test

	Test Value = 3					
	t	df	Sig. (2-tailed)	Mean Difference	95% Confidence Interval of the Difference	
					Lower	Upper
General Security	1.715	149	.088	.18667	-.0284	.4017
Password Security	-.578	149	.564	-.06667	-.2946	.1612
Virus	-.738	149	.461	-.08667	-.3186	.1453
Email and Internet	.503	149	.616	.06000	-.1759	.2959
Incident Reporting	-.286	149	.775	-.03333	-.2633	.1967
Identity Theft	1.608	149	.110	.18000	-.0412	.4012

Hypothesis Assessment Summarys

No.	Hypothesis	Sig Value	Empirical Result
H1	Awareness level of administrative and operational staff is significant for general security.	0.088	Reject
H2	Awareness level of administrative and operational staff is significant for personal security.	0.564	Reject
H3	Awareness level of administrative and operational staff is significant for computer viruses.	0.461	Reject
H4	Awareness level of administrative and operational staff is significant for email and internet.	0.616	Reject
H5	Awareness level of administrative and operational staff is significant for identity theft.	0.775	Reject
H6	Awareness level of administrative and operational staff is significant for incident reporting.	0.11	Reject

Critical Debate

All the hypotheses (H1 to H6) of this study represent the basic elements of CIA triad (Confidentiality, Integrity & Availability) and it is vehemently considered heart of information security and practiced in different circumstances to address and improve information security requirements.

In this study, the results by all the stated hypotheses conclude that administrative and operational staff of banking sector do not possess significant awareness and knowledge of information security in terms of general security, personal security, computer viruses, email and internet, identity theft and incident reporting. Therefore, all the hypotheses are rejected in this study.

The findings showed similarity with the previous study of Mingay (2005). He asserted that confidentiality, integrity and availability are three features of information security that exist in Control Objectives for Information and Related Technology (COBIT) structure which can be used to measure weaknesses and it functions according to the needs and requirements of the organization. Besides, Information Security is manifested by ensuring a set of controls such as practices, standards, regulations, techniques, systematical structures and/or programming limits.

Another literary work by Whitman & Mattord (2013) mentioned that confidentiality, integrity and availability are three main elements of information security which can be used to check and interpret deficiency and vulnerability of an information system.

Conclusion

This study has helped us to assess the awareness level of banking sector employees which is at embryonic stage and consequently, people display two kind of behaviors i.e. react vs. respond. However, the reactive approach by the employees leads the organization in complete disaster.

We recorded responses via structured questionnaire and analysis of data explicitly reveal that employees whether senior or junior do not possess adequate knowledge about information security and its management and the significant value in each construct is greater than 0.05.

Recommendations

The result shows a wide range of factors responsible for our underlying issue

that ranges from lack of training, improper use of media, account takeovers to network disruptions. Hence, focus on training and development is suggested which can be done through Training Need Analysis (TNA). Furthermore, TNA calls for analyzing the current skill inventory of employees, their readiness to learn and ultimately their self-efficacy to master the new modus operandi.

At last, it would be recommended that banks should hold internal audits on continuous basis to identify security threats and data breaching practices so that flaws in the system can be immediately rectified and this is how phishing attempts by any internal or external entity would lose its strength and organizations shall continue to serve its customers in a dignified manner.

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The Impact of Marketing Mix (5 Ps) Elements on Sales of UPS: A Case of Karachi Market – Buyer's Perspective

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This paper gives an analytical insight about the influencing impact of marketing mix 5 P's (Product, Price, Promotion, Packaging, and Placement) on sales of UPS industry for Karachi market from a buyer's point of view. Since all P's of marketing mix have its own level of impact on sales but vary from product to product and market to market. Pakistani UPS market is to huge extent undocumented and untouched having very high level of competition and low profit margin. We have the 5 P's as our independent variables whereas sales as dependent variable. Collection of primary data have been done through a questionnaire comprising 5 point likert scale based on the buyers' opinions. The collected data were analyzed through multiple regressions to know the significance of relationship of individual P of marketing mix with sales by using t-test and the strength and nature of relationship by Pearson's Correlation Coefficient. The overall significance of model was tested through ANOVA. The descriptive statistics were also used to determine average level of point of views as well as the variation in the buyers' opinions. The final result of this study reveals that out of 5 only 4 P's (product, price, placement, and promotion) have positively significant impact on sales whereas the packaging has negative and very low level of impact on sales. It does imply that product, placement, promotion, price have descending level of impacts on sales in UPS market, respectively.

Keywords: *Marketing Mix; UPS; Sales; Karachi*

Introduction

One of the most important element in business management is the marketing

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mix. Today's business world has become so demanding that the adaptation of suitable marketing strategies to provide needed products or services at the right time on the right place has become extremely critical. The purpose of this research is to practically analyse the impact of various marketing mix elements on the sales of UPS (UN interruptible power supply). In recent past the duration of load shedding per day up to twelve hours in some areas has increased substantially that provides opportunities to new entrance in the market to come up with suitable products and services so that consumers can solve their energy related problems and become more productive. The companies must develop marketing strategies which help them in creating a distinct image in the consumers' mind. In this connection organizations need to identify their target markets and factors influencing making decisions about UPS purchase. Keeping in view the shortfall of the energy, many small entrepreneurs started their business. With this progress consumers have choice to choose between locally manufactured UPS or imported products mainly from China. As many locally manufactured and imported UPS are available in the market, it has become very imperative for the companies to design marketing mix elements that are sustainable in the long run, and at the same time the designed marketing strategies should help companies in differentiating their products and the services from the competitors. In general, businesses must generate profits through sales to continue providing better products and services to their consumers and satisfy internal customers.

Research Objectives

The main objective of this research is to know the impact of marketing mix 5P's (product, price, promotion, place & packaging) on sales of UPS (Uninterruptible Power Supply) in Karachi market from buyer's point of view. This objective is tested through sub-objectives as given below:

- To examine the impact of each Ps of marketing mix on sales of UPS.
- To know the level of intra-strength of relationship among all variables (5 P's and sales).
- To check how much packaging (5^{th} P) of UPS is impactful on sales.
- To infer the significance about the overall impact of all 5 P's of marketing mix on sales of UPS.

We have limited our research only on the sustainable marketing strategies for UPS (Uninterruptible Power Supply) in Karachi, Pakistan. Although there are other power generating products however this study is confined for the UPS (Uninterruptible Power Supply).

Literature Review

The modern era of marketing focus customers rather competitors. Only this very objective ensures the survival of an organization in the market. In order to meet this objective organizations are now deemed to pay significant amount of salary to their sales persons followed by an extensive amount of expenditure on promotional campaigns. Moreover, organizations are now more interested in addressing the buying behaviors. Consumer behavior is not an easy task to deal with, there may be a difference in their need and act, they may respond appropriately but change at the last minute. The answer of these deviation lies between two questions; why they buy and how they buy? The first part is difficult to address, however how they buy can be answered through marketing mix strategy.

The concept of marketing mix started sparkling in every eye in 1964 when Neil H. Borden highlighted it in an article. The term was in teaching since late 1940's when marketing manager was described by James Culliton as "mixer of ingredients" later McCarthy categorized them and is known today as 4Ps of marketing (LING, 2007).

The marketing mix model is known for creating and implementing strategies. It helps in achieving both; organizational and consumer objectives. It is discussed that target market should be considered by marketers for achieving the right strategy with the proper blend of Ps only then the wants will be satisfied (LING, 2007).In order to generate positive response and to create perceived value marketing manager must adhere with marketing mix considering internal and external marketing environment.

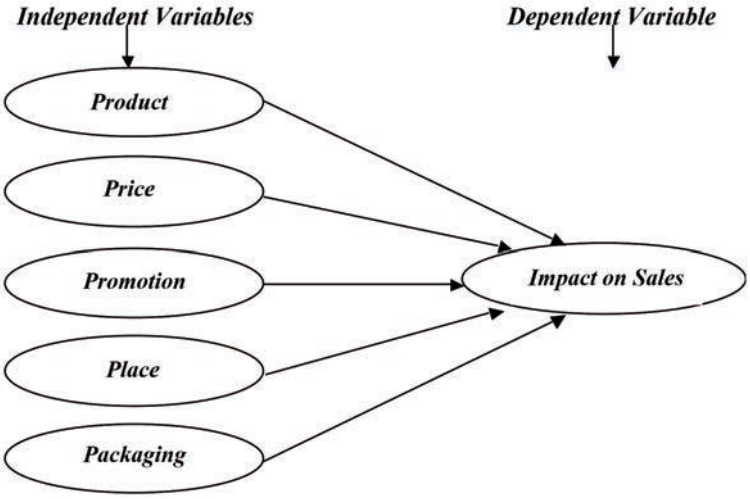
There is a strong critic on marketing mix that it does not generate shareholder value because it is not grounded in financial objectives (Doyle, 2000). Moreover, Doyle argues that ignoring profitability and pursuing ROI approach can be problematic. However, considering net present value and to maximize shareholder value may lead to rational framework which will work.

Furthermore, critics against Kotler's 4Ps are that these do not address industrial products and services of marketing. Later the growing trends of markets led Kotler to add more Ps to marketing mix(Kotler, 2005).

The marketing mix model has limitation to concept of physical evident product. In modern era marketers are more into the additional Ps i.e. people, process etc. There are critics, however the most common base of marketing is marketing mix which is strongly followed by many organizations and is been part of textbooks (LING, 2007).

1. Conceptual Framework

Figure 1: Conceptual Framework



Methodology

Methodology

This study was done by analyzing both primary and secondary data. The first part, secondary data comprising of literature review done by reviewing number of papers and other authentic materials as well as some data from the industry. The second part, primary data were gathered through questionnaire filled by the mix of current and expected user of UPS taken from different part of Karachi city.

Target Population

Following were the basic characteristics of target population which were to reflect in our targeted sample:

- Individual customer was to be mature and literate.
- He had a monthly household income atleastRs. 25,000.
- He had been living in Karachi city for last atleast 1 year.
- He had the power and good sense of making such buying decision as a head or supporting unit of family
- There was not any strict gender restriction, but preferably male because mostly they make such decisions.

Sampling Design

A sample size of 185 people was taken, including the current, expected and ex-user of UPS showing the above attributes of the target population. Sampling without replacement was used with a blend of probability and non-probability sampling technique. In probability sampling, we used the cluster sampling, made

the clusters of some regions of Karachi like PECHS, Gulshan-e-Iqbal, North Nazimabad, Gulistan-e-Jauhar, Malir. In non-probability sampling we used the convenience sampling because it was convenient to contact a large number of people through our personal contacts and networking channels like Facebook, LinkedIn, etc.

The data were analyzed at 5% significance level by using descriptive as well as inferential statistics with the help of Statistical Software, SPSS 19.0.

Description of Questionnaire

The questionnaire was made set such that people could give their feedback on the basis of their previous experience of purchasing and using UPS as well as their expected change in plan to either switch onto another UPS or any other power backup system. The questions were a mix of open ended, closed ended including 5-point Likert Scale, rank order scale giving nominal, ordinal, and interval type data about the demographics of respondents as well as their opinions about the 5 P's and sales of UPS.

Research Hypotheses:

To achieve the main research objective and its sub-objectives, this study was done by constructing two hypotheses as follows:

H_A : Each individual P of marketing mix (Product, Price, Place, Promotion and Packaging) has a positive impact on Sales of UPS.

H_B : Overall the 5 P's marketing mix has a positive impact on Sales of UPS

Analysis of Results and Findings

Given below are the findings from primary data through different statistical techniques used to complete this study.

Descriptive Statistics

Below Table 1 gives a descriptive statistics of the opinions of 185 respondents about the overall 5 P's of model and sales. It is very clear that all respondents showed their interest to provide their opinions. The average values (mean = 2.79, median = 3.0 & mode = 3.0) for packaging reflect that people are either neutral or give low importance to the packaging of UPS. Their 75th Percentile (75% of the respondents) confirms the previous statement. Further, the standarddeviation shows the data are more scattered than among other variables. Near about same situation remained with promotion, but in a better position than packaging means people want good options for the promotions and they are more than neutral about the importance of promotion this is further firmed by the 75% percentile value of 3.7 means 75% of the respondents give importance to the promotion.

Mean values for product (mean = 3.72, median = 3.78, and mode = 3.56) and sales(mean = 3.77, median = 3.75, and mode = 3.75) which suggest that respondents agreed to give high importance to both the variables. This is further confirmed by their75th percentile values of 4.22 and 4.25, respectively, and their low value of standard deviation that people are less variant from the mean value.

The average values for price (mean = 3.47, median = 3.5, and mode = 4) and placement (mean = 3.57, median = 3.67, and mode = 4) are not so high but a bit higher than packaging and promotion, which reflects that people are more than neutral or more to give high level of importance to the mentioned both variables. The values of standard deviation tell that they are a bit variant in their opinion as compare to the others. We can get a better picture of their opinion by its 75th percentiles, a score of 4 shows that 75% of people give high importance to both the variables.

Table 1: Descriptive Statistics of Overall 5P Model and Sales.

Description		Overall Packaging	Overall Product	Overall Price	Overall Placement	Overall Sales	Overall Promotion
N	Valid	185	185	185	185	185	185
	Missing	0	0	0	0	0	0
Mean		2.7957	3.7153	3.4730	3.5694	3.7703	3.2870
Median		3.0000	3.7778	3.5000	3.6667	3.7500	3.4000
Mode		3.00	3.56	4.00	4.00	3.75	3.40a
Std. Deviation		.83274	.68892	.88270	.72074	.68410	.62323
Skewness		-.437	-.548	-.366	-.403	-.425	-.366
Kurtosis		-.027	.724	.012	-.069	-.196	-.029
Percentiles	25	2.2000	3.3333	3.0000	3.0000	3.3750	2.8500
	50	3.0000	3.7778	3.5000	3.6667	3.7500	3.4000
	75	3.4000	4.2222	4.0000	4.0000	4.2500	3.7000

a. Multiple modes exist. The smallest value is shown

It can be concluded from the above discussion that the majority of people give high importance to the 4 P's (product, price, promotion, placement) of marketing mix but less importance to 5th P (packaging) to create a good sales of UPS.

Correlation Statistics

Given Table 2 is the correlation matrix among all the variables (dependent as Sales and independent as 5 P's of marketing mix). The main purpose of this correlation table is to know about the nature (either positive or negative) and level of strength of the relationship among the independent variables as well as between the dependent and independent variables. We can get a very good picture from the table that all the 5 P's are positively correlated with the sales. All the 4 P's (product, price, place,

promotion) are more toward moderately correlated with sales having values of correlation 0.3 or more with a true relationship of product with sales is at the top with a score of 0.383, which tells that the variables are not very strong in relationship but considerable to make any conclusion or prediction. Unfortunately, 5th P (packaging) has shown a very low strength in relationship having score 0.89 which tells that sales of UPS is not so much effected by the packaging either good or bad.

Further, these relationships are statistically significant as well except for packaging means at 5% significant level all the P-values of t-statistic for 4 P's are less than 0.025 (5%/2) but the packaging is having its P-value greater than 0.025, so it becomes statistically insignificant.

Similarly, the significant intra-variable strength can also be seen that Packaging is only significantly correlated with product and price, Product is significantly correlated with all the other variables, price is also significantly correlated with all other variables whereas the placement and promotion are also statistically significantly correlated with all other variables except packaging.

Table 2: Correlations with its statistical significance

		Overall Packaging	Overall Product	Overall Price	Overall Placement	Overall Sales	Overall Promotion
Overall Packaging	Pearson Correlation	1	.294**	.157*	.025	.089	.087
	Sig. (2-tailed)		.000	.032	.739	.229	.239
Overall Product	Pearson Correlation	.294**	1	.306**	.211**	.383**	.228**
	Sig. (2-tailed)	.000		.000	.004	.000	.002
Overall Price	Pearson Correlation	.157*	.306**	1	.229**	.320**	.166*
	Sig. (2-tailed)	.032	.000		.002	.000	.024
Overall Placement	Pearson Correlation	.025	.211**	.229**	1	.362**	.187*
	Sig. (2-tailed)	.739	.004	.002		.000	.011
Overall Sales	Pearson Correlation	.089	.383**	.320**	.362**	1	.322**
	Sig. (2-tailed)	.229	.000	.000	.000		.000
Overall Promotion	Pearson Correlation	.087	.228**	.166*	.187*	.322**	1
	Sig. (2-tailed)	.239	.002	.024	.011	.000	
**. Correlation is significant at the 0.01 level (2-tailed).							
*. Correlation is significant at the 0.05 level (2-tailed).							

It concludes that all the 4 P's are worthfull to make a positive relationship with sales of UPS means working on all these P create an increasing impact on sales, butthe packaging is not worth full to increase the sales of UPS which does not imply that packaging is completely out of worth but it varies from product to product but in case of UPS not so effective.

Regression Analysis

The overall model summary in Table 3 suggests three very important things, first adjusted R2 which is nearly 30% (0.274) means in total only 30% of the error in sales of UPS data is explained by all the 5 P's which is a fair enough level of fitness in case of multiple regression run between dependent and independent variables since this study is all about to deal with human psychology and to know about their preferences which is obviously difficult to predict so lesser value, no problem. It also tells that the model does not have the overfitting problem because the difference between R2and adjusted R2 is not too much. Secondly, the value of R (0.542) which tells two things one all the 5 P's are positively correlated with the sales, another is the level of strength which tells that in total 5 P's are moderately but towards strongly correlated with sales means good for making helpful predictions.

Last the Durbin Watson value of 1.946 concludes that there does not exist any positive or negative serial correlation among the error terms of variables because DW values for lower is 1.718 and for upper is 1.820 at the sample size of 185 having 5 independent variables.

Table 3: Overall Model Summary.[b]

R	R Square	Adjusted R Square	Std. Error of Estimate	Change Statistics					Durbin-Watson
				R Square Change	F Change	df1	df2	Sig. F Change	
.542[a]	.293	.274	.58302	.293	14.867	5	179	.000	1.946

a. Predictors: (Constant), Overall Promotion, Overall Packaging, Overall Placement, Overall Price, Overall Product

b. Dependent Variable: Overall Sales

Hypothesis Testing

First Hypothesis (H_A):

Our first hypothesis $H_A$is comprisingof 5 individual hypotheses which will be our alternative ones means to be tested through our study, as follows:

H_{A0}: Each individual P of marketing mix (Product, Price, Place, Promotion and Packaging) does not have a positive impact on Sales of UPS.

H_{A1}: Each individual P of marketing mix (Product, Price, Place, Promotion and Packaging) has a positive impact on Sales of UPS.

Table 4 gives an overall idea about the statistical significance of above described 5 hypotheses. It is very clear that each individual P of marketing mix is positively related with the Sales of UPS except the Packaging which is showing a reverse impact means a decrease in Sales. Our all four hypotheses are statistically significant at 5% significance level means all 4 P's (Product, Price, Place, Promotion individually) is having P-values of t-statistic less than 0.025 (5%/2) so null hypotheses are rejected. It suggests that there exists an individual positive relationship of each of the 4 P's with the Sales of UPS means each P has its important contributes in its proportion to increase the Sales volume of UPS. Unfortunately, Packaging is insignificant due to having P-value > 0.025 so null hypothesis is not rejected and Packaging does not have any positive impact on Sales of UPS, which means that the relationship between Packaging and Sales is not enough worthy to consider in the case of product like UPS. People don't find any reasonable level of interest in the Packaging of UPS to purchase it.

Table 4: Regression Coefficients

Model	Un-standardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
(Constant)	0.98	0.343	-	2.854	0.005
Overall Packaging	-0.027	0.054	-0.033	-0.494	0.622
Overall Product	0.246	0.07	0.248	3.538	0.001
Overall Price	0.126	0.052	0.163	2.411	0.017
Overall Placement	0.225	0.063	0.237	3.586	0.000
Overall Promotion	0.216	0.072	0.197	3.008	0.003

a. Dependent Variable: Overall Sales

The beta coefficients of especially two variables (Product and Placement) are a bit higher than the others which tells that these two variables have more impact to increase the Sales of UPS. The other two variables (Price and Promotion) also have reasonably increasing impact on Sales whereas the beta for Packaging suggests very very low impact with a marginal decrease in the Sales means not so much harmful but also not a fruitful one.

Second Hypothesis (HB):

Our second hypothesis is all about to test the overall significance of the model, as given below:

H_{B0}: Overall the 5 P's marketing mix does not have a positive impact on Sales of UPS.

H_{B1}: Overall the 5 P's marketing mix has a positive impact on Sales of UPS.

To test this hypothesis, we need to have an ANOVA table as given in Table 5. It comes very clear from the table that P-value for F-statistic is 0.000 which is less than 0.05. It implies that the overall model is statistically significant. We reject the null hypothesis and becomes firm that the overall 5 P marketing mix suggested for the UPS has a positive impact on to increase the Sales of UPS. So the model is good for making predictions.

Table 5: ANOVA Table.[b]

Model Sources	Sum of Squares	df	Mean Square	F	Sig.
Regression	25.267	5	5.053	14.867	.000[a]
Residual	60.845	179	.340		
Total	86.111	184			

a. Predictors: (Constant), Overall Promotion, Overall Packaging, Overall Placement, Overall Price, Overall Product

b. Dependent Variable: Overall Sales

Conclusion

The conclusion of the above analysis remained that from the buyer's point of view people were more inclined towards the product and the placement. In product they were more concerned about the value added features of the UPS, whereas for placement people were reluctant to have the UPS at nearby places so that they could save their extra costs apart from the cost of buying. Next people showed a mix behavior towards pricing and promotion. Of course price does matter for everyone but wants a reasonable quality of product as well, so for the higher prices they showed an attitude to switch to generators. So individually, each of the 4 P's of marketing mix has a positive (or increasing) impact on the Sales of UPS but Packaging factor did not create an ample spark to increase the Sales which suggested that Packaging factor is not impactful in the case of product like UPS but it does not mean that it is irrelevant because Packaging contains several safety measure and information to know about the product if it is provided correctly but in total the 5P model has positive impact on the Sales of UPS means the negativity of Packaging factor is diluted.

Further, the 5 P's of marketing mix has a reasonable level of strength in their relationship with the Sales as well as among themselves, which also confirms that the model is good for the making any future recommendation about the buyer's behavior of purchasing UPS in Karachi market.

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Brand Trust, Customer Satisfaction and Brand Loyalty-A Cross Examination

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Brand Loyalty is one of the most significant tools for any organization to survive in a severe competition. Brand helps in creating relationship between consumer and producer. In this cross sectional research we have investigated the effect of service quality, perceived quality, perceived value, brand trust and customer satisfaction on brand loyalty. The service quality, perceived quality and value were determined to be input variables; brand trust and customer satisfaction were determined to be intervening variables; and brand loyalty was determined to be the output variable. Conceptual model was designed to explain the factors on brand loyalty. Data were collected from 150 respondents who were users of certain international brand. Our study results provide a better understanding about brand loyalty among customers of a certain brand.

Keywords: *Brand loyalty, brand trust, customer satisfaction*

Introduction

Brand is an important subject which creates positive image in eyes of customers to make itself different from the competitors(kotler,2004).Today in the age of globalization internet is now spreading in the world quickly as compared in the past due to this the competition among the products are more severe to survive. This makes brand more important and uplift at high level. In the world of marketing and other businesses brand is growing up as an issue and become more important at international level. In the intensive competition to make the customers loyal to brand marketing strategies help to create positive image. An organization can determine its success by the degree of their brand rather than to build a new plant or technical innovation. Loyal customers even at toughest times purchase the product offering at high rate.

In the process of product choice by the customers brand plays an important

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role. The mean of this process is to create a link between the producer and consumer to provide them the functions that are promised by the product to meet his or her expectations. That's why customers consider brand in the product selection process when they intend to purchase. If customers aware more about the role and importance of brand they would be more loyal to the brand product. This creates a strong link between brand and loyalty about that brand. Brand loyalty concept is complicated and not one dimensional (Ha, 2005).The existence of the loyalty to brand is possible when customers feels that the product has right characteristics according to the quality and price of the product.

Brands are the asset of organizations. They interlink consumer and the company that build customers trust and loyalty to the brand. So that this loyalty brings greater market share when the product is purchase by the customers loyal to the brand (Assael 1998). Brands are considered as the more important assets of the company that make customers loyal and have value for the end consumer. Thus the brand helps customers in purchase decision making. Furthermore brand creates a relationship with the customers either the relation is positive by continuing the brand or negative by moving to the other brand.

The committed consumers purchase the brand repeatedly. The preference of a person is affected by the behavior of consumer that resulted in brand loyalty. There is a consistency in buying a product from the preferred brand class at any price. Different marketing steps are taken by the companies to make the customers loyal. They used different programs to attract the customers. In return they get the customers loyal to them and talked about the brand among friends positively. This positive word of mouth is very effective for the company that helps them in gaining the great market share.

The understanding about the needs and wants of the customers is important but majority of the companies failed to do it. The power of the customers of understanding about the products in present day is more as compared in the past. In this result customers remain unsatisfied. Thus not only credibility but loyalty of the brand is also affected directly and indirectly by this dissatisfaction of customers. In the beginning point, customer's satisfaction is built if the customer has full confidence or trust on the brand. If brand fails to fulfill promises customer will move to the competitor brand product.

The research scholars have now complete understanding about brand loyalty that is of great advantage for the companies from past few years. There are many studies about focus on advantages of customer loyalty to the brand and their

strength to attain great outcomes (Oliver, 1999; Russell-Bennett et al., 2007).From the practical point of view, in order to enhance the brand experience it's important to know how loyalty to the specific brand can be reinforced. In this observation loyalty of customer shows a wider role and connects the company, its employees and shareholders with the final consumer of the product. Similarly brand is a main mean to understand the consumer brand link.

Every of the firm want to attract the customers and they would have the high brand feeling about the product. For this purpose customer satisfaction is necessary factor that can move the customers towards it. From this point of view if the customers will satisfy with their specific brand they would make repeat purchases and show commitment. Not only satisfaction various other factors affect the brand loyalty of consumer include trust, quality perceived value, equity. These factors are helpful in creating the multidimensional construct of brand loyalty. In this research we are studying the variables including service quality, perceived quality, perceived value, customer satisfaction, brand trust and their effect of brand loyalty. These determinants are designed to know the effects on brand loyalty.

The loyal customers of specific brand probably willing to pay any price for the product (Jacoby and Chestnut 1998; Pessemier1959 ; Reicheld 1996).All this is due to the communication of the brand, trust of the customer and better service quality offered by the brand make consumer attractive to use it. Companies achieve the great share in market if loyal consumers purchase the brand constantly (Assael 1998). Moreover loyal consumers have a perfect image in their sights to use the product repeatedly overtime (Upshaw 1995).Higher brand performance results and customer brand association may builds brand trust and loyalty that was a result of better communication and great service quality. Thus the loyalty to this brand can be understand through trustworthiness, service quality and perceived quality.

Literature review

Brand loyalty

A situation in which consumer purchase and uses the brands of their trust as compare to brand that they don't trust. In this way consumer shows a commitment to that brand. Brand loyalty can be measured through positive word of mouth, satisfaction of customer, brand trust, sensitivity of price etc. A degree in which consumer consistently purchases the brand available in the product category. The loyalty to the specific brand of consumer will remain unchanged if the brand is as long available (Rizwan et al., 2013). Today's customer has more power of understanding about the brand and they will buy the brand from specific product category if they feel that the product has right characteristics, quality and price.

Moreover they don't move towards other suppliers to purchase the product. Also if the other brands are available at low prices having higher quality, consumers will remain loyal to their specific brand.

If the company wants to achieve the profitability and compete with their rival products brand loyalty is condition for it (Aaker, 1995, 1997; Reichheld, Markey, and Hopton, 2000).Companies offer many brands to their customers but unfortunately not every brand attracts the customers. Only few brands give company higher loyalty customers. Marketing strategies are the heart of company to build a customer brand relationship; particularly in intensive competition by reducing the product disparity (Fournier and Yao, 1997).From the literature point of view brand loyalty in marketing has now great importance from last few decades (Howard and Sheth 1969).

Due to the better perceived quality or positive image of brand the loyal consumers prefer to purchase the specific brand but not for the price (Chaudri, 1999). Through the attributes and good quality habit brand can be identified (Jacoby and Kyner, 1973).In general the customer level of satisfaction can be identified either the brand fulfil their expectations or not through the means of brand loyalty (Bloemer and Kasper, 1995; Ballester and Aleman, 2001). The performance of the brand is recognized by higher customer's loyalty.

Brand Trust

It is a promise of brand with their customers to fulfill their expectations. Brand trust is an important item that helps customer loyal to the brand. Without the trust on brand customer can't enter in loyalty set. To build a trust it's important for the Consumer to take and asses the information from the product. Companies can build emotional trust if they can prove that the brand is only for the customers and meet their expectations (e.g. brand is trustworthiness and friendly for the family use).Consistent brand demonstrate this specific behavior.

The customers trust on specified brand functions and willingness to purchase the brand from the product class (Moormal et al 1993). The vagueness in the situation can be diminishes by the trust through which customer can rely on the specific trusted brand product. Brand loyalty is a result of brand trust or promises that build the highly valued connections Morgan and Hunt 1994, Chaudhuri and Holbrook, 2001).Some scholars defined commitment as "an enduring desire to maintain a valued relationship" (Moorman, Zaltman, and Deshpande 1992).So promises are the cause of constant on going and retaining a relationship build between company and consumer.

H_1: Brand trust positively correlated with brand loyalty

Service quality

Service quality can be defined as the observation of customer about service items that include quality of physical atmosphere, resulted quality, and interfaced quality. Furthermore these service items can also be estimated on the basis of detailed dimensions of quality, awareness, consistency and promises. In addition to this, service quality contains the exchange of relationships between salesperson and the purchasers. Due to the better services provided customer wants to avail the services at shop. This resulted in the extensive coordination between salesperson and consumer.

Service quality can be defined as the divergence between customer image about the service presentation and his/her expectations for services. Service quality is an essential item in building the brand trust and defined in other words as the decisions that are resultant from estimation process in which customers differentiate the service provided to them and the services they perceived (Parasuraman et al, 1988) Gronroos (1984).

The customer's decision about the whole performance of the service product (Zeithaml 1988). If the quality experienced by the customer is according to the quality they expect about the brand this resulted in a better service and perceived quality Gronroos (1988). The model of service quality that got fame was presented by Parasuraman et al. (1985, 1988). There is a major effect of service quality on the loyalty of customer (Bolton and Drew 1991). Some scholars suggested that only those elements have major effect on brand loyalty that is not intangible but gives response (Kayaman and Arasli 2007). The quality perceived by the customer and their satisfaction level the indirect link among brand loyalty and service quality can be defined (Chitty et al., 2007).

In service organizations they must have to facilitate the customer with their consistent and best service qualities that can make them at the top in the competition of services provided. The point to keep in mind while in competition is to provide customers with their consistent and best products, loyalty of customers with brand and mitigating cost (Rusta, 2008).

Practical research also clearly defined the relationship between the service quality, brand trust and loyalty of customers towards the brand. The behavior of the customer and intention towards the services and its multidimensional structure was proposed by the scholar (Zeithaml et at. 1996). Positive word of mouth, intention of customers towards the brand, sensitivity in price and behaviors of complaining about it are the main four measurements that completely described the multidimensional framework.

H_2: Service quality is positively correlated with brand trust

Customer satisfaction

It can be defined as the degree to which customers are happy with the use of products that are provided to them by the companies. To achieve the level of satisfaction companies must have to keep in mind the needs and wants of customers and supply them outstanding products and services. Any business can move on to the upper level of advantage by achieving customer satisfaction in intensive competitive market. It is a feeling of any consumer post purchases and uses of the product, regardless that product and services meet the expectations or not.

Originally customers make their expectation and perception about the brand product by means of positive word of mouth from the friends and family, the selling and promotion activities by using the market strategies. If the customers found unsatisfied from the productand services it is possibility that they can tell others about such practice.

It is commonly used in studies. Basically satisfaction is a speedy or quick experience of the customers after using the product through which the overall satisfaction can be assessed (Lam, et al, 2004; Tian, 1998; Yang, 2004; Li and Vogelsong, 2003). Various studies tells that the loyalty is affected by the satisfaction through the satisfaction level we can predict the purchase intentions and behaviour of consumer towards the brand product (Eggert, A. & Ulaga, 2002). In making a decision to purchase the product past experiences of using that product affects the intention of consumer decision process.

From the past few decades many marketers and research scholars define customer satisfaction. In the words of (Oliver 1997) satisfaction is defined as "the summary psychological state resulting when the emotion surrounding disconfirmed expectation is coupled with prior feelings about the customer experience ".

Practical studies illustrate that satisfaction is the predecessor of brand loyalty, intention to re-buy the product and behavior of brand towards its customers (Oliver, 1980; Pritchard et al., 1999; Russell- Bennett et al., 2007). Brand loyalty can increased by the satisfaction of customer and repeat the purchase of the same product services (LaBarbera and Mazursky, 1983). In the research repurchase and consumption of the product leads to the two phases of loyalty that are as, loyalty to purchase and loyalty towards attitude or behavior through which it can be determined either consumers will purchase those services or move to other that are more preferable (Bennett, Hartel, and McColl- Kennedy, 2005; Chaudhuri and Holbrook, 2001).Thus, the following hypothesis is arrived:

H_3: Customer Satisfaction will be positively correlated with brand loyalty

Perceived brand quality

It is the perception of the customer created by the companies through the advertising publicities, and other social media intend to purchase the product. In general it is the feeling of customer about product quality and its features provided to them such a performance and reliability of the product. The promises made by the brand product to meet the expectations of the customers (Zenithal, 1988). Basically there are two phases of the quality objective and perceived quality. According to, Zeithaml (1988) objective quality has no validity and valuations of the quality. Furthermore from this point of view perceived quality is significant among them which are also a second phase or part of the quality. The customer valuations for the product quality and services either product meets the expectations (Olsen, 2002). It is a relative concept that can change the people's experiences and expectations of that product brand. Some researchers and practitioners had considered the relation of perceived quality and satisfaction by Olsen (2002), Darsono and Junaedi (2006). There are many models presented by the, Cronin and Taylor (1992) to examine the link of perceived quality and satisfaction. Through Some practical researches it is also found that there is a supportive link between perceived quality and satisfaction Lee and Back (2008). In some other quality studies this link has been described (Brady and Robertson, 2001; Fornell, 1992; Tse and Wilton, 1988) According to Gotlieb et al.'s (1994) there is a consistent relation between perceived quality and customer satisfaction. If the link of perceived quality and satisfaction become consistent then it is best for the brand loyalty. Thus perceived quality has positive effect on brand satisfaction. Perceived quality has also an effect on the brand trust which suggested by many researchers Corritore et al., (2003). Through this result it is generally came to knew that there is a positive effect of perceived quality on brand trust. The following hypothesis are developed from the literature

H_4: perceived quality is positively correlated with customer satisfaction H_5: perceived quality is positively correlated with brand trust

Perceived brand value

Perceived brand value is defined as the value of product according to its price in the mind of customers. Customer doesn't know the cost incurred on the products. Customer just internally after using the product can analyze through feelings that either the price of the product is more than it's worth or not. This is the point that makes customer willing to pay for the product or not. So in such situation manufacturers or producers apply marketing strategies to create high value of the product and services in the eyes of customer.

It also tells the post purchase intentions and feelings of the customers about the product worth. Furthermore customers then create an image of product in mind positive or may be negative. (Hellier et al., 2003) suggested that it's an observation of customers that the advantages are provided to them are according to price or they satisfy from that product or not. When customer purchases a product he/she wants to get more value than its cost this is the level of satisfaction and expectations of customers for product.

There is association between perceived value and satisfaction suggested by Cronin et al. (2000). Moreover the outcomes told that a significant relationship is between perceived value and satisfaction. The value of product in eyes of customer would be high if customer gets more satisfaction from the specific brand product.

Some scholars studied that there is significant relationship between perceived value and brand trust Chaudhuri and Holbrook (2001). Product value in eyes of customer would increase if the trust of customer on brand is high. Thus the hypotheses we get from a literature are as follows:

H_6: Perceived value is positively correlated with customer satisfaction.

H_7: Perceived value is positively correlated with brand trust

Research Methodology

Sample/Data

A sample of 150 respondents was conveniently selected. The data was collected from Karachi City and respondents were asked to participate in this research to collect the information about proposed phenomenon through physically distributed questionnaires. The current study utilizes a technique that is convenience sampling. It is a sampling technique in which data or relevant information is collected from the sample/units of the study that are conveniently available (Zikmund, 1997). There are two major purposes of the survey instrument: first to investigate the relationship of different variables in foundation of brand loyalty and secondary, to gather the information about the respondents of different characteristics that can be used to understand the variations in different classes.

Measures

The survey of the study contains two sections. Section 1 contains individual specific and demographic variables. This section tells the respondents gender, age, income, education and status while Section 2 includes the variables that are under study. These variables include perceived value, brand loyalty, brand trust, customer satisfaction, perceived quality and service quality.

The scales under this study were taken from previous literature and published studies. Perceived value has been measured through 4 items (Mathwick et al. 2001; Petrick 2002; Sweeney and Soutar 2001); Brand loyalty was measured through 6 items proposed by Algesheimer, Uptal and Herrmann, 2005; Fullerton, 2005; Brand trust measured through 5 items developed by Matzler et al, (2008), Chanduhuri and Holbrook, (2001); Perceived quality measured through 4 items proposed by Yoo et al (2000) ; Customer satisfaction has been measured through scale developed by Ragunathan and Irwin (2001) and Service quality measured through 5 items and these were adopted from Brady and Cronin, 2001; Parasuraman et al, 1988; Terblanche and Boshoff, 2001).

Procedure

The questionnaire was distributed among 170 respondents for collection of data in Karachi. From the above mentioned criteria the respondents were selected for this purpose. From the starting point or before giving the questionnaire the purpose of the research and study was described to them so that they can easily fill up the questionnaire with appropriate response answers. After the collection of data 150 questionnaires were selected and rest of the questionnaires were not including in the research due to invalid and incomplete questionnaires. The setting of the variables were according to the five point Likert scale (1= strongly agree, 2= agree; 3= neutral, 4= disagree; 5=strongly disagree). Data was coded in SPSS program. To view the results regression analysis was used.

Data Analysis

Reliability Analysis

In this study of brand loyalty questionnaire we use 26 items in measurement of 6 variables and we came to know that the items in this study are more reliable than standard and suggested value 0.50 by Nunnally (1970) and 0.60 by Moss et al. (1998).So these 26 items shows that all these are reliable and valid to measure the opinions of consumers towards brand loyalty. Reliability of items are shown in *(Table 1)*

Table 1: Reliability of Measurements Instrument

Scales	Items	Cronbach Alpha
Perceived Value	4	0.525
Brand Loyalty	6	0.721
Brand Trust	5	0.633
Customer Satisfaction	2	0.595
Perceived Quality	4	0.629
Service Quality	5	0.617

The respondents personal and demographic collected information such as gender, age, income, education and status are given in the following constructed table *(Table 2)*

Table 2: Description of the Respondents

	Category	Frequency	Percentage
Variable			
Gender	Male	135	90
	Female	15	10
Age	15-20 years	41	27.3
	20-25 years	107	71.3
	25-30 years	2	1.3
Income	Below 15000	103	68.7
	15000-25000	34	22.7
	25000-35000	10	6.7
	35000-45000	2	1.3
	Above 50000	1	0.7
Education	Matriculation	3	2
	Inter	8	5.3
	Bachelor	114	76
	Master	16	10.7
	Ms/MPhil	9	6
Status	Student	149	99.3
	Employed	1	0.7

Service quality, perceived quality, perceived value and brand trust

In order to understand the model of brand loyalty, regression results show that there is significant positive relationship between service quality and brand trust with (P=.304) and ($p<0.01$). This means that service quality helps more than 30% to create brand trust among customers. Our study validates the hypothesis H_2.

The regression analysis of the study shows that there is a positive significant relationship between perceived quality and brand trust with (P=.362) and ($p<0.01$). Through this result we came to know that perceived quality contribute more than 36% to create brand trust. From this result we can say that our study supported the hypothesis H_5.

Furthermore the relationship between perceived value and brand trust is significant and positive with (P=.146) and ($p<0.05$). According to this regression analysis result we came to know that perceived value contribute more than14% in creating brand trust among customers. So this result gives validation in favor of hypothesis H_7.

Perceived quality, perceived value and customer satisfaction

Regression analysis of our research shows that there is a positive and significant relationship between perceived quality and customer satisfaction with (P=.389) and ($p<0.01$). This outcome tells that perceived quality contribute more than 38% in customer satisfaction. Hypothesis H_4 authenticates through this regression outcome. So a relationship between perceived quality and customer satisfaction is found.

Based on the regression results we examine that there is insignificant relationship between perceived value and customer satisfaction with (P=.073) and ($p>0.05$). Younger respondents were focused mainly in this research and they were observed to the high perceived value with relative product if mainly sample consist of adults then results could be different about the relation of perceived value and customer satisfaction. So, we conclude that there is no significant relationship between perceived value and customer satisfaction. From this outcome hypothesis H_6 is rejected.

Brand trust, Customer satisfaction and brand loyalty

According to the research study the variables investigated and have a significant positive relationship between brand trust and brand loyalty. Moreover brand trust has a positive effect on brand loyalty with (P=.510) and ($p<0.01$). This represents that brand trust contribute 51% to brand loyalty. So, this regression analysis shows that brand trust has positive impact on brand loyalty and which authenticate the hypothesis H_1.

Regression outcome tells that there is positive significant relationship between customer satisfaction and brand loyalty with (P=.132) and ($p<0.05$). This means that customer satisfaction helps more than 13% in building brand loyalty. On the basis of this result we can say that there is a relationship between customer satisfaction and brand loyalty which is significant and positive from the regression analysis. This research verify hypothesis H_3.

Table 3: Regression Analysis results

Hypothesis	Model variables	S.E	ß	C.R	Significance P	Results
H_1	BL - BT	.087	.510	6.495	0.000	Supported
H_2	BT- SQ	.080	.304	3.978	0.000	Supported
H_3	BL - CS	.076	.132	1.682	0.015	Supported
H_4	CS - BL	.086	.389	4.697	0.000	Supported
H_5	BT - PQ	.073	.362	4.771	0.000	Supported
H_6	CS - PV	.099	.073	.932	0.353	Not Supported
H_7	BT - PV	.073	.146	2.186	.030	Supported

Discussion

The purpose of this study is to examine the factors affecting brand loyalty. According to the results of study we came to know the loyalty for brand among customers in Karachi for Hewlett Packard products. The multidimensional construct of brand loyalty basically contains five factors; perceived quality, value, service quality, band trust and customer satisfaction.

Previous researches found the significant effect of brand trust on loyalty of customers. From the study, outcome tells that brand trust is the most important factor on brand loyalty having the regression weight 0.510 ($p<0.01$). A highly significant positive relationship is found between brand trust and brand loyalty. This result illustrates that promises of the product with the customers are fulfilled in return a trust on brand creates which is beneficial for the company in making loyal customers. Brand loyalty is a result of brand trust or promises that build the highly valued connections with consumers Morgan and Hunt 1994, Chaudhuri and Holbrook, 2001).Customer satisfaction is found to be another very important aspect that also has significant effect on brand loyalty with regression weight to be 0.132 (p, 0.015). To make customers loyal Companies keep the needs and wants of the customers in mind to satisfy and facilitate them by their best products and services. The study affirmatively proved by this consequence that Brand loyalty can increased by the satisfaction of customer and repeat the purchase of the same product services (LaBarbera and Mazursky, 1983). From the investigation of study Purchase intentions and decision making of the customers are affected by their satisfaction level.

Service quality, perceived quality and value have a significant positive effect on intervening variables. These inputs can bring changes in customers positively to make them loyal or negatively by losing them. From the study of (Olsen, 2002) the customer valuations for the product quality and services either product meets the expectations. In predicting brand loyalty the link of customer satisfaction and perceived quality is found significant from the regression result of analysis to be ($P=.389$) and ($p<0.01$). From the results we can say that perceived quality has a positive effect in loyalty of customers. Quality wise perception created in minds that help them in creating satisfaction level to increase which then lead the consumers to brand loyalty.

Prior studies examine the relationship between brand trust and perceived quality. This result was also found to be consistent by Corritore et al., (2003). Regression analysis with ($P=.362$) and ($p<0.01$) as perceive quality is the antecedent of brand loyalty it supports our study that it effects the customers

loyalty and trust. Our research tells and supports in form of positive significant relationship with brand trust that leads customer to loyalty of that brand. From the past proved studies researchers and practitioners found that there is a major effect of service quality on the loyalty of customer (Bolton and Drew 1991). Thefinding of this study also affirms by Parasuraman et al (1988) that service quality has positive effect on brand trust. Our study mentions a strong role of service quality in creating a profile of loyal customers with the regression weight being (P=.304) and ($p<0.01$). Quality of the service give benefits not only to customers but more to the company in make themselves a market king so better service quality provides company with great market share. Our study gives a favor in this relationship of service quality and brand trust.

Perceived value is found to be another important factor that affects the brand trust in building brand loyalty. Basically it is the Customer evaluation of product according to the price. Some scholars studied that there is positive significant relationship between perceived value and brand trust Chaudhuri and Holbrook (2001). Our result is found to be consistent with it and gives the regression weight of (P=.146) and ($p<0.05$). Our study conclusions support that perceived value helps a lot in the foundation of brand trust that take customer towards loyalty. Earlier researches affirms perceived value to be significant with customer satisfaction but our study investigates and discover the insignificant relationship between perceived value and customer satisfaction by regression analysis having weight (P=.073) and ($p>0.05$). Younger respondents were focused mainly in this research and they were observed to the high perceived value with relative product if mainly sample consist of adults then results could be different for this relation.

This research indicates some advices for the companies to follow for the foundation of brand loyalty. Companies must have to focus on the promotion means like media and advertising etc. but have to represent the actual picture of the product and stop in avoiding of the statements on that they can't justify. Any company in the world If want to be successful, they should have to give numerous and affective details to their customer so that they buy their services and products. By this manner companies can get complete loyalty. Lastly, this paper recommended the ways of developing brand loyalty for the companies.

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Effects of Operational Risk Management on Financial Institutions

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"Once is happenstance. Twice is coincidence. Three times is enemy action."– Ian L. Fleming (1908-1964)

This article will open the new vision of the operational risk management (ORM) in the financial institutions (FI). It also identifies the conditions in which operational risk management can play a vital role for the development and enhancement of the (FI). The main idea is to identify the effects of operational risk management on financial institutions of developed and developing countries. Operational risk management usually ignored by the developing countries and considered it as not the essential part of risk management. Most of the personals in different financial institutions of developing countries do not manage ORM as according to the rules and regulations which are defined by the Basel II. There are various reasons of ignoring operational risk management due to which most of the financial institutions are suffering from the monetary losses. This article will help the financial institutions to analyze the importance of operational risk management and how to enhance their existing system of operational risk management, so that they can meet the standard by which they can minimize their losses.

Keywords: *Operational Risk Management, Advance Measurement Approach, Basel II, Internal & External Fraud, Scenario Analysis*

Introduction

Under Basel II (International Convergence of Capital Measurement and Capital Standards: A Revised Framework, June 2004[3], operational risk is defined as ***"the risk of loss resulting from inadequate or failed internal processes, people and systems or from external events."***

According to Basel Committee on Banking Supervision, 2001[4], it is understood that Operational Risk Management (ORM) is one of the important

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Pillar, which can protect financial institutions of the world from the major risk related to the market, credit and operational. Since then most of the financial institutions of the world tried to implement the operational risk management framework in their respective financial institutions, especially those banks which belong to the developed countries because they learned from their previous mistakes which they had done by ignoring the importance of ORM.

ORM implementation is not easy for banking industry unless and until their supervisors take the responsibilities of monitoring, conducting and making a mechanism by which the policies, process and system can be assess for ORM. Root causes of risk in FI are always belonging to ORM. Strong control of internal and external governance are always required to handle the operational risk and this all can be happen by understanding the various forms of operational risk.

As the internal & external governance issues and challenges related to Operational Risk Management (ORM) cannot be encountered like the credit & market risk. So for handling such an issues & challenges financial Institutions required specially preparations for which ORM provides three types of approaches namely Basic Indicator approach, Standard Approach and Advanced Measurement Approach (AMA). These Approaches prepared the financial institutions how to avoid and take precautions from the operational risk which might be faced by the institutions. Most of the developed countries financial institutions adopt the AMA approach for encounter the operational risk because AMA is more risk sensitive then the rest of the approaches. The financial institutions of developing countries are unable to adopt AMA because of many reasons and one of the basic reasons is not to consider operational risk management as the essential part of its risk management. Most of the developing countries FI are focusing mainly on market & credit risk management, such an ignorance used to be done by the developed countries FI before the losses which they have faced.

Till year 2014 there are huge technological development in the entire world due to which we considered world as a global village. So if this world is a village then how it is possible that one can move in another direction then the other, overall is this developing country financial institutions should learn from the mistakes which developed countries financial institutions have done in the domain of operational risk management.

Operational Risk Management

There are two types of risk namely systematic risk and unsystematic risk. Risk which can be reduce or managed is known as systematic risk but such risk which

cannot be reduce or handle is known as unsystematic risk. Operational Risk is considered as systematic risk, so for handling such type of risk ORM barrier can be placed in the protection of financial institutions.

As according to Basel II, June 2004 [3] operational risk is ***"the risk of loss resulting from inadequate or failed internal processes, people and systems or from external events***". As according to ***BCBS[3]*** Operational risk consists of seven types of risks which are Internal Fraud, External Fraud, Employee practices & workplace safety, Clients - products and business practices, damage to physical assets, Business disruption & system failure and execution, delivery & process management. The Internal & External factors which can cause a loss are Product development, System development, Regulatory requirements, Legal claims, Outsourcing & Joint ventures. For control or minimise the effects of operational risk losses following things should be considered like Policies & procedures, Trained personnel, Authorisation levels, Reporting, Decision making & Monitoring.

In my opinion operation risk management is the process and mechanism which protect the financial institutions from the internal failure of process, people, system and external events. As per Operational Risk- Supervisory Guidelines for the Advanced Measurement Approaches, June 2011 [44] for protecting the financial institutions (FI) it is important to build three line of defence.

1. Management of all business lines (identify & manage the risk)
2. Separate & Independent entity which will focus mainly on the function of (ORM). It is responsible for reporting to risk committees or board.
3. Separate & Independent entity which will review & monitor the internal governance, policy, procedure and system of the (FI). Such team should belong to the external parties, who should have proper qualification for performing such responsibilities.

These three lines of defence that should be integrated with the overall governance structure of risk management of the financial institutions. As according to Principles for the Sound Management of Operational Risk, June 2011[48] for increasing the Operational risk management performance there are certain basic rules which should be adopt by the heads/directors/board of (FI).

Rule 1: Established and Implement the strong operational risk management environment.

Rule 2: Develop & Implement the operational risk management frame work which should be integrated with the rest of the risk management.

Rule 3: Responsible of (FI) should monitor & review the policies, processes and system performance at all levels.

Rule 4: Responsible of (FI) should review & approve the risk appetite & tolerance level of operational risk management.

Rule 5: Responsible of (FI) should develop proper hierarchy of operation risk management governance who will responsible for the implementation and management of policies, processes and system performance of operational risk management.

Rule 6: Responsible of (FI) should create the mechanism by which the inherent risk can be properly understood by the management who is responsible for the implementation and management of policies, processes and system performance of operational risk management.

Rule 7: Two V's (Verification & Validation) should be adopted by the management before the approval of any activities which can cause operations risk.

Rule 8: Proper monitoring system should be implementing by the responsible of (FI), this monitoring system and team will responsible for monitoring the profiles and material exposure to losses.

Rule 9: (FI) should have backup & recovery plan in case of losses occurring due to operational risk.

The reasons of adopting Operational risk management policy and procedure by the financial institutions (FI) are to reduce the possibilities and errors, by which financial losses can be occurred. As per Cummins, Lewis & Wei in 2006[13] there are four theories related to the operational risk management.

1. Operational risk responsible for strong losses not for earning. Whereas operational risk can be manage till the border line of loss which appeared because of the events of operational loss.

2. The modern risk management theories consider that financial institutions can have earnings if they administrate the risks because of some factors as: convex form of taxes, financial costs and losses, asymmetric information or agents costs.

3. Froot, Scharfstein, and Stein (1993)[34] considered that the information asymmetry between institutions generates an external capital more expensive than the internal capital. This happens because the banks have

more information about the portfolio quality than the investors and the insurers have more information regarding the exposure distribution and reserve aptness regarding losses than the investors.

4. If operational losses generate positive net present value to financial institutions because the internal capital is completely used, the shares price will follow more than the loss value. The operational risk events can generate a bad quality for the management and main control of the market for the reduction of the cash-flows future estimations.

According to the Basel Committee on Banking Supervision (2006)[5], (FI) should follow certain rules and regulation for controlling the operational risk. This rules and regulations can be divided into two criteria which are qualitative and quantitative.

Qualitative Criteria:

1. Independent operational risk management function, responsible for the design and implementation of the operational risk management framework, including policies and procedures, measurement methodology, reporting system and operational risk management process.
2. ORM system that is closely integrated into the daily risk management processes of the bank.
3. Allocation of operational risk capital to major business lines.
4. Incentives to improve the management of operational risk.
5. Regular reporting of operational risk exposures and procedures for taking appropriate action.
6. Documented operational risk management process.
7. Routine for ensuring compliance with internal policies, controls and procedures.
8. Regular reviews of the ORM processes and measurement system by internal & external auditors.
9. Validation of the operational risk measurement system by supervisory bodies.

Quantitative Criteria:

1. Risk measurement system aligned with the loss event types.
2. Regulatory capital calculated as the sun of expected losses and unexpected losses.

3. Measurement system, sufficiently granular to capture the tail losses.
4. Internal data reflecting the business environment and internal control systems.
5. Relevant external data reflecting the business environment and internal control systems.
6. Scenario analysis reflecting the business environment and internal control systems.
7. Credible, transparent and well documented and verifiable approaches for weighting fundamental elements and used to calculate a capital charge for operational risk.

According to the Institute of Operational Risk (2010)[22], the key risk indicators of operation risk is responsible for identifying the risk from external & internal factors which can cause a loss by matching with the Basel loss event types, so that it can be control by the internal control environment.

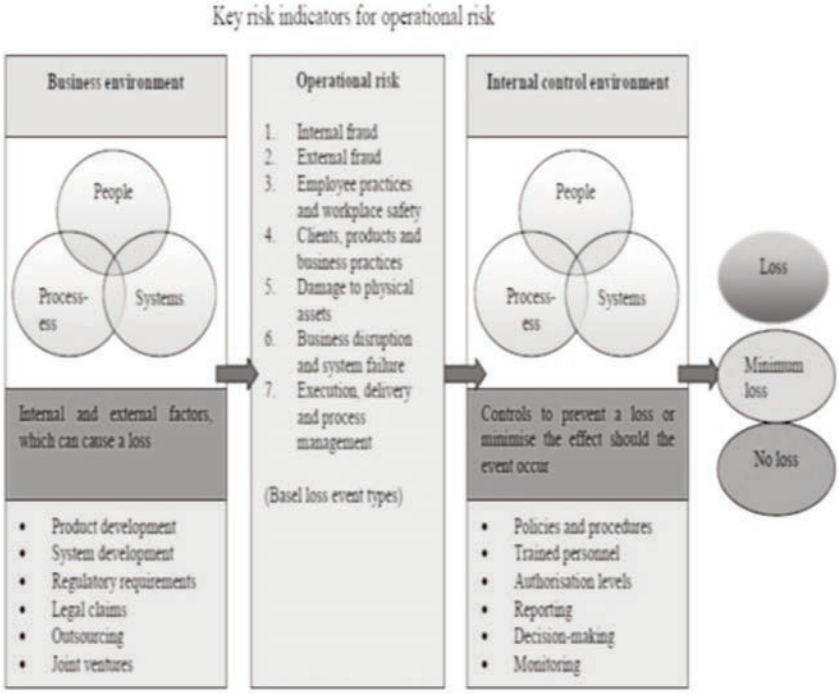


Figure1. Key Risk Indicators for Operational Risk

Source: Ong, M. 2007 [45]

Operational Risk Management in the light of its Approaches

Approaches

For the capital assessment of operational risk there are three broad approaches namely Basic Risk Indicator approach, Standard Approach & Advanced Measurement Approach (AMA) which can increase the sensitivity of risk. In this article I have discuss the overview of the early approaches but main focus will be on AMA because it is more reliable and risk sensitive approach then the earlier approaches of Operational Risk.

Basic Indicator Approach

As by name this approach can be understood that it is for specific or basic purpose. In such an approach the indicator is gross income, with each bank holding capital for operational risk equal to the amount of a fixed percentage, multiplied by its individual amount of gross income. This approach is implemented in all (FI) of the world but it is not highly recommended as such an approach cannot identify most of the operational risk in the (FI). So such a (FI) which are involve in the wide range of products and business activities they should adopt more sophisticated approach then the Basic Indicator Approach.

Standardised Approach

As per Operational Risk- Supervisory Guidelines for the Advanced Measurement Approaches, June 2011[4] Standardised Approach consists of eight business lines. For the capital assessment the gross income were multiply with the beta factor of the business lines of which capital charge were calculate.

Business Line	Beta Factor
Corporate finance	18%
Trading and sales	18%
Retail banking	12%
Commercial banking	15%
Payment and settlement	18%
Agency services	15%
Asset Management	12%
Retail Brokerage	12%

The total capital charge is calculated as the three-year average of the simple summation of the regulatory capital charges across each of the business lines in each year.

Advanced Measurement Approach

In such an approach (FI) can develop its own experimental model to calculate

the required capital for operation risk. Such an approach can only be allowed to use after the approval of local regulators. Also, according to section 664 of original Basel Accord, in order to qualify for use of the AMA a bank must satisfy its supervisor that, at a minimum:

- Its board of directors and senior management, as appropriate, are actively involved in the oversight of the operational risk management framework;
- It has an operational risk management system that is conceptually sound and is implemented with integrity; and
- It has sufficient resources in the use of the approach in the major business lines as well as the control and audit areas.

For the development, implementation and maintenance of the ORM framework as per the requirement of BASEL II, there are certain challenges which most of the (FI) are facing in the adoption of AMA approach. Besides the adoption issues, firstly (FI) should control its operational risk by controlling the internal governance and regularly monitoring the external & internal causes which can generate the event of operation risk losses.

Non-AMA (FI) have less frequency of internal losses than the AMA (FI), it is not because non AMA (FI) are more competent or risk sensitive as compare to the AMA (FI). One of the reasons is that mostly AMA (FI) is larger in size and having more ability, procedures and processes of collecting loss data. Non-AMA (FI) internal losses frequency is low but the amount of losses is larger than the AMA (FI).Whereas the operational risk capital to gross income of AMA (FI) is low (10.8%) as compare to the Non-AMA (FI) which is between (12% to 18%).

The data which usually collected by AMA (FI) is always of good quality because BASEL II does not approve any (FI) for AMA unless they follow the guideline of Basel II regarding the quality of the data collected for operational risk management. Operational risk data of AMA (FI) is divided in four sections: 1. Data related to internal controls, 2. Scenario data, 3.Internal loss data and 4. External loss data. Data which is collected for operational risks in AMA (FI) are used for multiple purposes like risk management, quantification, accounting and reporting.

The Basel II Framework states in paragraph 673, that an AMA bank "must have an appropriate de minimis gross loss threshold for internal loss data collection, for example □10,000. The appropriate threshold may vary somewhat between banks and within a bank across business lines and/or event types. However, particular thresholds should be broadly consistent with those used by

peer banks." Losses before recovery are known as gross loss whereas losses after recovery are known as Net loss. (FI) can use Gross loss amount except insurance as an input for AMA models whereas Net loss amount data cannot be use an input for AMA models. Threshold of internal loss data is depend on the impact of the losses on capital calculations, ideally threshold of internal loss data start from the impact of the losses.

Many (FI) keep their threshold on the higher level for avoiding the event to be observed which have impact on the losses; on the other hand some (FI) keep their threshold on lower level for gathering more and more information & data of the events which cause losses. Threshold of data should include operational loss event data too because it have impact on operational risk exposures. Now the important things which should be considered is to identify when internal loss data is maintain & what is the date of internal losses. Usually AMA (FI) have no issue which reference date is to be considered, for example discovery date, accounting date, contingent liability date or occurrence date but preference should be given to occurrence date for building the calculation dataset, if (FI) have limited observation period of five years. Losses can be grouped into single loss, if the losses belong to similar business line, type, date and have no impact on capital calculation.

For increasing the sensitivity for detecting the operational risk, various models have been used but the most important thing that AMA (FI) should considered before taking the decisions on the AMA model is that AMA model should support qualitative & quantitative analyses and also identify the operational risk in the (FI). AMA Model usually depends on scenario based analyses, so the (FI) should make sure that the model scenario analyses estimated the risk profile effectively to operational risk.

AMA uses four types of data element for calculating the operational risk capital charge: Internal loss data, external data, scenario analyses and business environment & internal control factors. The combination of these data elements in sufficient for estimating the operational risk but responsibility goes on the (FI) management to utilize these data elements with the right combinations to adequate with the level of risk to which it is exposed. As there are various issues which causes barrier in the implementation of AMA in (FI). As in case of Internal loss data which supposed to use in AMA model is usually expected that it come from the risk management practice which reflect the (FI) risk profile but if the validation of the internal loss data is not verifiable with respect to the data quality, which is required for AMA models, then the results have no worth regarding identification of operational risk.

Another data element which is required in AMA models is the external data

which supposed to be collected from the external source. Such data element is use in the estimation & identification of loss severity beside it external data is also use as an input for scenario analysis. The authenticity and rating for such third part which is external source for collecting external data is very vital for the perfection of external data which supposed to be collected from them.

Scenario Analysis output is totally depending on the input which was given to the AMA models. It is an essential part for the building of Operational Risk Management Framework (ORMF). The calculation of uncertainty made by scenario analyses is challengeable because of the data biases or fake, so for the getting exact result it is being suggested that further research should be done before finalizing the decision on the bases of result abstracted from the scenario analyses. The last form of data element type is BEICF which is usually used as an indirect input in the AMA models as an ex post adjustment to the model output.

Before going toward the decision related to operational risk management following points should be considers.

1. Is that enough data is available for the statistical modelling
2. Validation, Verification and Quality of data.
3. Structure should be present for the calculation of expected losses of each types of risk.
4. Ability of take decision related to mitigate operational risk.
5. Threshold of calculating the losses events of operational risk should not be bias.

Operation Risk Management in Developed Countries

There are various examples which show the importance of operational risk management in the financial institutions (FI). Due to negligence or failure of operational risk management biggest financial losses have occurred in the history of financial world for example the cases of Daiwa Bank (1995), Barings (1995), Saloman Inc (1994-96) and the worst Societe Generale (2008) lost approximately US$ 7 billion due to lack of internal control.

As per Tomas Magnusson, Abha Prasad and Ian Storkey, March 2010[53] Due to operational risk management failure Fulham & Hammersmith council in the UK received the ruling against them in 1989 from the high court regarding the swap contracts of worth US$ 9.5 billion. The court decision causes losses to the British & foreign banks of worth US$1 billion in default of swap payments. Another case because of operational risk management failure was happen in the district of California namely Orange county, they losses US$1.6 billion. They

declared bankruptcy which was the highest financial failure in the history of US local government. Besides it major causes of corruptions in the financial institutions is the weakness in the Operational Risk Management, it also included in the external fraud like hacking, forgery, & robbery. From the last over twenty years more than hundred operational losses exceeded to US$100 million in value each whereas few of them even exceeded to US$1 billion. Such losses were not because of market or credit risk, the reason behind it was the operational risk which led the (FI) towards the bankruptcies & mergers.

One of the data element of AMA framework namely Business environment & Internal control factors, it is the fineness tool which help AMA approved (FI) in identifying and measuring the operational risk. According to the BCBS report of 2008[6] developed countries (FI) those are AMA approved mostly used Business environment & internal control factors as a tool of risk Management & Quantification. 98% of developed countries (FI) using BEICF tool namely Risk Control Self-Assessment, 90% use audit results and 81% use Key Risk Indicator & Key Performance Indicators for operational risk management. As many banks of developed countries are using more than thousand Key Risk Indicators and Key Performance Indicators as an input for the operational risk measurement.

It is essential for (FI) before becoming AMA approved institution they have to use Scenario Analysis as an input for operational risk measurement methodology, most of the (FI) of developed countries are using Scenario Analyses for more than three years. Ong (2007)[45] states that level of the risk should be determine so that the solution should be made accordingly. Unless and until the level of seriousness of risk is not determined till than the precautions or solutions cannot be affected.

Due to the serious consequences operational risk, (FI) have increase the level of awareness and doing research work in finding the ways of managing the operational risk in their institutions. Besides it BASEL II pushing the financial institutions, to focus on identifying, measuring, evaluating and managing their operational risk. Such steps increase the importance of Operational Risk Management in the (FI), due which it become the fastest growing risk castigation in the (FI).

As per Chartis Research operational,2012[23] risk management systems demand is increasing worldwide (FI) especially in the developed countries, by 2011 the total value reached to US$1.55 billion. Such a thing shows the great concerned of (FI) regarding the operational risk management. Besides it report finds that US & EU (FI) are replacing their 1st Generations ORM system and emerging regions like Middle East, Asia Pacific and South America are investing in the development of sophisticated system of Operational Risk Management. (FI)

also replacing their approaches, processes, peoples, internal risk indicating system's and external risk indicating system for improving the risk sensitivity for operational risk. As summed up by a U.S. regulator, "The advanced approaches of Basel II represent a sea change in how banks determine their minimum level of required capital for regulatory purposes. It intends to better align regulatory capital with inherent risks and banks' internal economic capital".

In old days most of the (FI) of developed countries never gave importance to the operational risk as compare to the credit and market risk, but since year 2008 when whole world were hit by the recession crises and the reason of such crises which world get it know was the ignorance and weakness of operational risk management.

In 1999, the Basel Committee for Banking Supervision (BCBS)[7] state that: "...an informal survey that highlights the growing realisation of the significance of risks other than credit and market risks, such as operational risk, which have been at the heart of some important banking problems in recent years..." As Roger W. Ferguson, Vice Chairman of the Board of Governors of the Federal Reserve System [52], stated, "In an increasingly technologically driven banking system, operational risks have become an even larger share of total risk. Frankly, at some banks, they are probably the dominant risk." HSBC Group (2004) [21] states that "...regulators are increasingly focusing on operational risk ... This extends to operational risk the principle of supporting credit and market risk with capital, since arguably it is operational risk that potentially poses the greatest risk."

Table 1: Examples of operational losses in the global financial industry in the last two decades.[47]

S.No	Year	Name	Impact	Description
1.	1994	Orange Country	$1.7 bln, bankruptcy	Incompetence (Robert Citron, treasurer), lack of expert risk oversight and control.
2.	1995	Barings Bank	$1 bln, bankruptcy	Internal fraud (Nick Leeson, trader), unauthorized trading, poor internal surveillance & control
3.	1995	Daiwa Bank	$1.1 bln, S&P down grading from A to BBB	Internal fraud and illegal trading (Toshihide Iguchi, trader) and poor internal surveillance and control
4.	2001	"9/11" Terrorist Attack	Civilian & property loss, business disruptions	Terrorism externally inflicted
5.	2002	Allied Irish Banks	0.7 bln	Fraudulent activities (John Rusnak, trader) and poor internal surveillance and control

Operational Risk Management in Developing Countries

The (FI) in developing countries is very different then the (FI) of developed countries. The problem facing by the developing countries in the introduction of Basel II are due to the less developed and uncontrollable infrastructure such as lack of credit rating agencies & non-authentic & bias data collection.

In Pakistan, Sri Lanka & India main problem of not adopting the complete features of Basel II are the small number of credit rating agencies and the very few numbers of agencies which are responsible for rating the financial institutions. As unrated entities are not entitle of doing any sort of business with the financial institutions because (FI) are handicapped under the rules of Basel II. In Sri Lanka as per Jayamaha, 2006[27] "The firms which have low credit rating as per Standardized approach and have restrictions of lending as per Basel II, the (FI) authorities of Sri Lanka are allowing flexibility regarding lending the loans to such firms, overall (FI) of Sri lanka are doing what they are willing to do without considering any types of risk specially operational risk which will led them towards the market and credit risk and at the end financial loses. Pakistani, Sri Lankan, Indian banks & many developing countries (FI) have not even started collecting the external loss data, which is very essential for implementing the AMA (Advanced Measurement Approach) for operational risk management.

As per survey by Benton Gup (University of Alabama)[14] those countries which are emerging market economies or poorer such as Brazil, Russia, Argentina, Botswana & Guinea-Bissau should improve and developed their infrastructure. After this introduce and reinforce 3rd pillar of Basel II. In the developing countries one thing is common among them and that is weakness in their internal control system. As previously discuss the main causes of operational risk are people, processing, internal & external factors. In most of the developing countries (FI) no one ever focus on these causes specially there is a lack of appropriate people for handling the operational risk.

Minimum 3 years of internal loss data is required for implementing and developing the AMA model but in most of the developing countries (FI) such a data collection is not even started, so how come the AMA can be adopted by them , as the most risk sensitive approach for identifying operational risk is AMA. In few countries external data is being collected by the agencies but the reliability of such data is questionable.The Basel Committee on Banking Supervision performed the Loss Data Collection Exercise 2008 (LDCE)[4] to collect information on all four data elements– internal loss data, external loss data, scenario analysis, and business environment and internal control factors (BEICFs) – used in Advanced Measurement Approach (AMA). Such a collection of data by BCBS is the sign of importance of operational risk management by the

worldwide (FI), specially the (FI) belong to USA, UK, Japan and Australia. These shows developing countries are far behind then their peers (FI) which belong to the developed countries, as they already adopt the AMA approach for handling the operational risk.

As per Andrew Cornford (2005)[1], (FI) of developing countries have no clear understanding regarding the operational risk and very few finance ministries have Business Continuity & Disaster Recovery Plan, so it is suggested before developing the infrastructure and designing the Operational Risk management & measurement framework, (FI) authorities should understand the operational risk. Such comments by IMF show the importance of operational risk in the eyes of (FI) of developing countries.

Framework of ORM cannot be successfully implemented unless the culture of risk awareness is not developed in (FI), once the culture being developed then the maintenance of Operational Risk Management required following steps to be followed by the (FI).

1. Identification & measurement of risks
2. Design and develop the strategies of risk management
3. Implementation of risk management policies.
4. Monitoring & compliance the performance of policies.
5. Continuous improvement of Operational Risk Management models & framework.

The following Basel II implementation Schedule for top tier banks in Asian countries show that Singapore and China are ahead in adopting the advanced approach of operational risk management as compare to the others Asian countries but as a group still they are far behind from the developed countries of US and EU.

Table 2: Basel II Implementation Schedule for Top Tier Banks

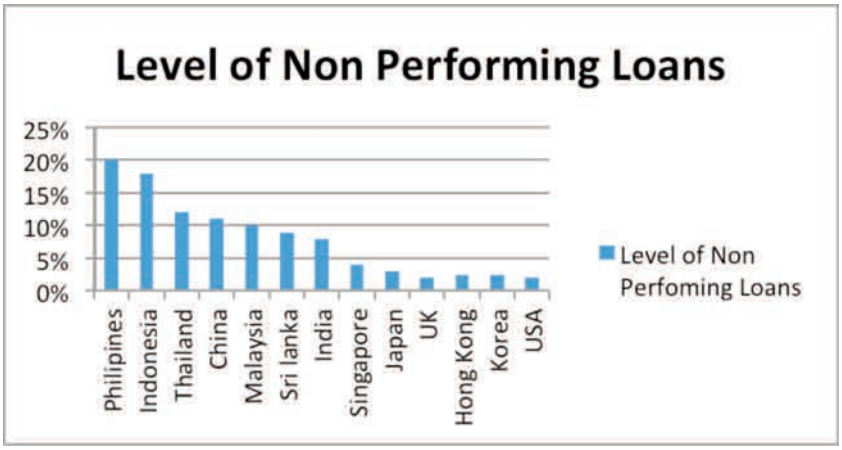
Basel II Implementation Schedule for Top Tier Banks						
	2007	2008	2009	2010	2011	2012
Singapore	★★	★★★ ★★				★★★
Hong Kong	★★ ★★	★★★				
Malaysia		★ ★		★★		
Thailand		★★ ★★	★★★			
Indonesia		★ ★		★★		
China		★ ★	★★ ★★			★★★ ★★★
US		★★★ ★★★				
EU	★★ ★★	★★★ ★★★				
KEY	Credit Risk Operational Risk	★ *Standardised* ★ *Basic Indicator*	★★ *Foundation IRB* ★★ *Standardised*	★★★ *Advanced IRB* ★★★ *AMA*		

Source: ARMI Research [28]

As per ARMI research[28] there are five major issues and challenges which create hurdles for the developing countries in adopting the AMA and operational risk management programs which are as follows:

1. Lack of Appropriate and Highly skilled personal related to risk management.
2. Unable to change the management for implementing the new policies, systems and procedures related to risk management.
3. Lack of authentic data which is required for the implementation of Basel II framework.
4. Lack of reporting and disclosure at (FI) of internal and external risk.
5. Lack of strategy and execution of ERM among the (FI).

Following graphs shows the efforts of developed countries toward the handling of Non-Performing Loan (NPL) and on the other hand developing countries are suffering from the highest rates of NPL. The only reason is the weakness of internal control and ignorance towards the operational risk management.



Graph 1. Level of Non-Performing Loans.
Source: ARMI Research [28]

One of the main reason of accounting errors and financial fraud is due to the weakness in the internal control system. As per Doyle, Ge, and McVay (2006)[29] companies with Internal Control Weakness have lower-quality financial statements and that this relation is driven by overall company-level controls, as opposed to account-specific weaknesses. According to Ashbaugh-Skaife, Collins, Kinney, and LaFond (2008)[2] firms with Internal Control Weakness have higher idiosyncratic risk, systematic risk, and cost of equity. As per Moody's (2004)[40], Internal Control Weakness especially those broader in scope, can have a direct effect on

credit ratings. Overall is that Internal Control Weakness or lack of operational risk management gave rise to the various risks which ultimately convert into a major financial loss and end with the bankruptcy or merger of (FI).

Merger of two (FI) also increase operational risk. As in the merger of Bank of America & Merrill Lynch all the employee of Merrill Lynch do not stay with the Bank after the merger. Actually when merger of two (FI) happen basically it demoralize the employees and which as a result push them to fly toward the new destination. Internal fraud usually happen while during the merger because during the merger process internal control system become weaker and gives a chance to internal fraud. Another example is of Lloyds TSb bank when it acquired Halifax Bank of Scotland in 2008, one of the main issues which were raised was how to hold the employees. So merger is not the solution for protecting the (FI) from the operational risk. Above given examples is from the developed countries (FI) those are much far forward in operational risk management than the developing countries (FI), but they also faced the operational risk due to the lack of internal control weakness & operational risk management, so it is suggested developing countries (FI) should learn a lessons from the mistakes of developed countries (FI) because currently developing countries (FI) are doing the same which have been done before by the developed countries (FI).

Operational Risk Management Ignorance in Developing Countries

In developing countries (FI) mostly they don't considered operational risk management as the essential part of the risk management. Mainly they focus on credit & market risk, but there is certain thing of which developing countries (FI) should focus before it's too late. As scenario analysis is very essential for forward looking of operational risk exposures, before using such scenario analyses supervisors required certain elements for scenario framework which are as follows & not adopted by the developing countries (FI).

1. Process should be clearly defined.
2. Highly skilled personals related to operational risk management.
3. Well-developed structure for the validation & verification of data.
4. Well defined structure for the development of scenario estimates.
5. High quality documentation which can support the scenario output.
6. Mechanism which can eliminate the elements of bias data.

There are certain factors which ignored by the developing countries (FI) due to which major losses have been occurred. Such factors are as follows:

- Increase in the cost of Operational Risk Management compliance.

- Unable to access the effective information related to the risk among the peers (FI).
- Unavailability of Loss database, which is very essential for implementing AMA. Initially required at least 3 years and finally 5 years data for the implementation of AMA.
- Lack of system which can measure the operational risk as per Basel II quantification requirements.
- Unable to implement the operational risk management system due to the various reasons but mainly authorities are unable to understand the importance of operational risk management.

Quality of decision related to risk can be taken, when the decision taker is able to understand the risks properly. Strong operational risk management framework can be made by considering the following core components.

- Good governance on identification, strategy, structure & execution of operational risk management.
- Clear strategy on risk appetite, processes, policies and tolerance.
- Monitoring of policies implementation at all level.
- Review of inside and outside strategic policies.
- Well defined hierarchical structure of operational risk management.

Figure 3. Operational Risk Management Framework
Source: *Operational Risk Management Systems 2008 [46]*

Conclusion

In this article, there is lots of evidence that have been discussed which causes major losses in the financial institution of the world. As in 1991, BCCI Bank was collapsed due to its involvement in money laundering whereas in 1995 Daiwa Bank crisis was happened due to the weakness of governance and internal control at New York branch. Merger of Lloyds TSB bank with Halifax Bank and in the merger of ABN AMRO bank with Royal Bank of Scotland, all of these examples is of the massive failures. These all failures were happen because of operational risk not because of credit or market risk. After a long list of failures of financial institutions of developed countries they understand the reasons behind their failures and that was their ignorance towards the operational risk management. Developed countries (FI) continuously upgrading themselves by implementing advance approaches and also continuously monitoring their system for enhancement and upgrading as per the requirement. Developed countries (FI) implement such system, processes & procedures which eliminate their internal control weakness and helping them in scenario analyzing which foreseen them forward operational risk exposures.

On the other side of the world mean developing countries financial institutions till to date haven't taken any steps which can protect them from operational risk. Till to date they are analyzing their operational risk by using basic approaches for example Basic Indicator Approach and Standard Approach. These approaches are not that much risk sensitive then the Advance Measurement Approach (AMA). For implementing AMA there are certain steps that should be taken and the first step is to maintain the database of internal loss data for at least 3 years. So most of the developing countries (FI) does not have such types of database and above all there are very few rating agencies which can provide the external data, the data which provided by the rating agencies of developing countries are usually bias or not having such a quality which can be used in the operational risk models. Most of the authorities of developing countries (FI) are not following the rules and regulations of Basel II due to which major financial failures are facing by them.

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