

Factors Affecting Social Behavior of an Individual and Moderating Role of Technology: Partial Least Square-Structural Equation Modelling

Arpan Sinha, Scholar, Amity Business School, Amity University Uttar Pradesh, Noida
Teena Bagga, Professor, Amity Business School, Amity University Uttar Pradesh, Noida
Rajesh Kumar Yadav, Scholar, Amity Business School, Amity University Uttar Pradesh, Noida
Priyanshi Pathak, Student, Amity Business School, Amity University Uttar Pradesh, Noida

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Abstract:

This study is focused on the Social Behavior of an individual and the various factors that affect it both positively and negatively. The role of technology in moderating the impact of these factors on Social Behavior of an individual is also explored in this research. This research was conducted with a sample of 456 employees from the Manufacturing and Service sector in Delhi NCR. The reliability of the data was checked through Composite Reliability values and Cronbach's Alpha values. The collected data was then analyzed using MS Excel, SPSS and Smart PLS softwares. Partial Least Squares- Structured Equation Modeling was used to analyze the factors affecting Social Behavior. Upon analyzes it was found that some factors had positive impact on the Social Behavior of a person and some did not. The entire proposed hypotheses were supported except the effect of Organization Culture on Social Behavior. After checking the moderating role of technology in these factors, it was found that except Organizational Culture and Personal Values, technology moderates all other factors positively. On the basis of findings of the study managerial implications have been discussed in the manuscript. The results and discussions of the current work may also provide meaningful implications for further research.

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1. Introduction

1.1 Social Behaviour

Social Behavior is one of the necessary activities for all the living beings present on planet Earth. It is the interaction both verbal and non-verbal between these living beings which is helpful in their survival. Social

Behavior is found in all kinds of animals, plants who are likely to reproduce and survive. In this paper we will be focusing on the Homo-Sapiens or the people. Social Behavior is made from two words, 'Social' and 'Behavior'.

Social Behavior is the act done by humans of giving a response to their internal and external stimuli. It is how two or more organisms of same species behaves

with each other. It also encompasses the affect one member of the species have on other due to their behavior. Social behavior is affected by two things, first the quality of the individual who is involved in the process of social behavior and second, the environment or the situation in which the social behavior takes place. "Sociality means group-living. The formulation of any general theory of social behavior begins, therefore, with a description of the selective forces causing and maintaining group-living." (Alexander, 1974). The definition meant that sociality means living in a group. Living in group marks the beginning of social behavior. "The group's behavior could just as easily be interpreted as a petty, coercive attempt to enforce conformity, a form of group tyranny." (Homans, 1974) The definition meant that some groups behave in a petty and coercive way in order to enforce conformity. "According to Hamilton's genetical theory of social behavior (Hamilton, 1964a, b), a social act is favored by natural selection if it increases the inclusive fitness of the performer." (Eberhard, 1975) The definition meant that any social act is influenced by the natural selection or genes that the person is born with.

1.2 Technology

Technology is the amalgamation of several techniques, skills, ideas; knowledge and ability of a person to create machines and equipments to make things easier for people. Technology has made the people's life easier. Starting from the invention of tools to control fire to the invention of wheel for people to travel far off places, technology has made people more efficient in completing their task. Invention of Printing Press has made people to access the world's information in their hands. The invention of telephones made communication among people easy and fast. People who earlier used to communicate via letters or telegrams were now able to

communicate easily with just dialing few numbers. Finally the invention of Internet made the world a global village. (McLuhan, 1968) People around the world came closer to each other and got connected because of internet. Trade across the globe has become easy and so has the lives of people. With a single click people can now access world's information instantly.

Technology can be seen in almost every field. Be it science, engineering, arts, mathematics or business. It has simply made doing all these things easy, efficient, effective and fast. Science and engineering has seen developments like the invention of Rockets through which people can now travel to a different planet. Robots now work like human beings and complete the daily chores. In arts people can now report from their homes, they can simply draw things on their i-pads, people can write blogs, stories on the internet which has given them a bigger and a better platform to showcase their talents.

2. Literature review

2.1 Theoretical Framework

Technology is anything developed from the knowledge of science and used for practical purposes. This may include systems, devices and methods. We have moved from 'industrial age' to 'information age' in which technology is a crucial part. The term 'technology' has a wide spectrum and each individual has a different way of understanding it. Technology has a nature of changing fast. Which once started from typewriters has reached to tablets and has made our lives easier and comfortable. Technologies help an individual to extend his/her abilities. (Miller, 2013) It makes an individual an indispensable part of this technology driven system. Right from work to communication, manufacturing to transportation, securing data to learning and for scaling up of

businesses, technology is present everywhere. (Hsu, 2008) Social Behavior is the behavior of an individual towards the society he/she is living in. Technology has a major impact on social behavior. Social Media is now a part of daily routine in the lives of people. (Arruda-Filho, 2010) According to a survey it is found out that on average people spend at least twenty-four hours of week on their devices like phones, tablets or laptops. Twenty-Four hours a week makes a one full day. Considering this it is that people spend one full day in virtual reality and are oblivious to what all is happening around them. There is no place on earth where people are not glued to their glowing screens. Be it their office, school, restaurants, home or any sporting event they are always found online. (Skågeby, 2010) All of this seems fascinating at first, but this has serious implications of affecting societal relationships, health especially mental health and morals. It is commonly seen these days that parents hand over devices like phones, tablets to their young children who can barely talk. This activity is harming the child's ability to interact with others and be social. Since childhood he has been handed over the devices hence he's oblivious to the real emotions of people around him. (Koh, 2008) Due to the ever changing nature of technology there are also changes in the way how people do things in life. Recently, the world has witnessed an array of several communication channels. The adolescents are the first user of these channels. (Jaeger, 2010) Children who go to school can now readily communicate with people they know and with the strangers alike. Due to the emergence of all these new channels there has been a change in behavior of these adolescents. For them there is no such concept of face-to-face communication. The concern here is that all this will have a detrimental effect on their interpersonal abilities to communicate. People who are oblivious to the idea of face-to-face interactions finds it difficult to pick up social cues as they aren't aware of which gesture or non-verbal

action means what. (Kim, 2013) There's a culture of being 'always on' which has popularized after the invention of smart phones and has majorly contributed to the time people spend online, in other words, on internet. This culture was popularized with the intention of communicating with people from any part of the world. This, at first seemed to be a fascinating idea that with a mobile phone the person is never alone. Incidentally, people have made this an irony. (Bates, 1992) The amount of time people spend on their smart phones or in virtual reality has significantly reduced the time they used to spend with their family or friends and the time they used to spend with themselves for rejuvenating thoughts also known as the real world. With all this happening around, it has impacted the functions of society on a large scale. (Rehg, 2013)

2.2 Conceptual Framework

Relating Learning Abilities to Social Behavior:

Learning ability is the ability of an individual wherein, he/she are competent enough to learn new things. The time a person decides to indulge himself in learning something, his/her behavior towards others changes. For example, if a person knows that he/she has rights to take some leaves from organization, which means he/she has learned about the policies of leave, then they will be able to avail the leave and would also share the information with the colleagues. In fact, due to the inability of the person to learn he/she is often secluded by peers in social gatherings. (Bellanti, 2000) Therefore, we posit,

H1: Learning Abilities are positively associated to Social Behavior.

Relating Learning Ability to Social Behavior with

Technology as a Moderator: Technology is something created by science and is used for daily purposes. It is with the intention to make lives easier.

In the 21st century, since the time a child is born, he/she is exposed to the world of technology and internet. This shapes the behavior of a child since the birth. With the invention of internet as a technology and smart phone as its medium, people who were introvert are now seen coming out their shells and sharing their thoughts on social media. This moderates their social behavior from being an introvert. Many researches have been conducted to study the role of technology in changing the social behavior of an individual. (Tarhini, 2014). Therefore, we posit that,

H2: Information Technology usage positively moderates the relationship between Learning Ability and Social Behavior.

Relating Motivation to Social Behavior: Motivation is a tool that encourages people to indulge themselves in certain things. In case of Social Behavior if a person is highly motivated to get himself/herself engaged in social affairs like talking to people, sharing ideas with them, etc. he/she will be more socially outward. In case of extrinsic motivation the person gets motivated when some other person maybe, a friend, family member, colleague, boss or acquaintance motivates the person by giving pep talks, monetary benefits, counseling, etc. In such a scenario the motivation is extrinsic or outward bound. There are several researches that relate motivation to social behavior. (Cesario, 2006) Therefore, we can posit that,

H3: Motivation is positively associated to Social Behavior.

Relating Motivation to Social Behavior with Technology as a Moderator: - Motivation is a tool that helps a person to do something in an exciting way. Motivation makes employees get appreciation from boss as well as saves sometime of theirs. This further motivates the employees of the organization.

Technology has helped people motivate to communicate and increase their social circle as communication via technological advancement and smart phone at hands has become easier. (Yang, 2017) There have been several researches stating the role of technology as a moderator in social behavior. Therefore, we posit,

H4: Information Technology usage positively moderates the relationship between Motivation and Social Behavior.

Relating Organizational Culture to Social Behavior:- Organizational Culture is related to Social Behavior is talked by several researchers who claim that having a positive, friendly, open, respectful Organizational Culture leads to a better social behavior of the person. If the person is exposed to daunting, unfriendly, disrespectful Organizational Culture he/she would restrain themselves from having social relations in the organizations which would hamper the productivity of the organization and morale of the employee. When a person is made comfortable in the organization, his roles and goals are clearly defined in that case the employee will tend to trust the organization and his/her colleagues. This will give them the boost to work hard for the organization. (Choi, 2007) Several researches explain that Organizational Culture is related to social behavior of a person. Therefore, we can posit that,

H5: Organizational Culture is positively associated to Social Behavior.

Relating Organizational Culture to Social Behavior with Technology as a Moderator:- Technology has played a major role in changing how the organizations work. People have become more connected. The hierarchical delay of communication is eradicated with the invention of technology. People are more

connected and get the information on time. People do not feel left out as the communication covers everyone in the organization. There have been several researches on technology's role as a moderator between Organizational Culture and social behavior. (Middlemist, 1981) Therefore, we posit,

H6: Information Technology usage positively moderates the relationship between Organizational Culture and Social Behavior.

Relating Personal Values to Social Behavior:- Personal Values are the set of beliefs that a person holds for himself. The values that one has are influenced by the internal and external world both. In case of internal world, the person's experiences and emotions lead him/her to make a value system. It is only dependent on the person. Whereas, in case of external world, people like parents, family members, teachers, society, friends, acquaintance, etc. influence the values of an individual. Based on these values the person's social behavior is framed. If the person's values don't allow him to talk much he might not develop a good social connect. On the other hand, if the person's values allow him/her to openly talk about feelings, share ideas etc. his/her social behavior will be framed accordingly. The culture a person follows also decides his values which further affects his/her behavior. (Roccas, 2010) There are several researches done that show case how personal values are related to the social behavior of a person. If the personal values of a person don't allow him to mingle with people he/she will not. But if the personal values allow him/her to do so then he/she would mingle. The literatures referred here suggest that Personal Values are related to Social Behavior. Therefore, we posit that,

H7: Personal Values are positively associated to Social Behavior.

Relating Personal Values to Social Behavior with Technology as a Moderator:- Technology plays a vital role in assessing the personal values of the person. When a person posts something on the internet there is an option for him/her to be an anonymous user. This is where personal values of a person come into light. People with high value system are never seen degrading or disregarding the other person. Their social behavior on Social Media is governed by their Personal Values. There have been several researches done on the same thing. (Lin, 2003) Therefore, we posit,

H8: Information Technology usage positively moderates the relationship between Personal Values and Social Behavior.

3. Research Methodology

Methodology adopted for the study is given below in figure 2, which clearly tells that first of all literature is surveyed in detail for the identification of factors affecting Social Behavior, further those factors are used in the preparation of questionnaire and responses based on that questionnaire after circulating the google forms. Finally in this study (PLS-SEM) partial least square structural equation modeling is applied to analyse the research model. Reason behind the selection of method is that there are less restrictions. This tool is adopted for the current study as the hypothesis of the study are the prediction of the effect of constructs on the Social Behavior of a person. Firstly, Cronbach's alpha is checked to know the reliability of the data and validate it, followed by examining of structural model i.e. testing the hypothesis relationship. At the end bootstrapping method with 2000 resampling was applied in order to test the significant related path coefficients along with

their loadings.

4. Data Analysis and Interpretation

The basis of this manuscript is to test the model and concerned hypotheses, firstly questionnaire is developed on a 5 Likert Scale and distributed to various employees working in manufacturing and services sector by adopting Random Sampling technique. The data is collected over a period of 1 month. Research design for the study is Exploratory in nature.

5. Measurement Model Assessments

For measurement model assessing first of all reliability and validating has been examined. Two types of reliability have been examined. Two types of reliability have been tested first is the test of internal consistency which has been checked with composite reliability, secondly Indicator reliability has been measured with outer loadings. Further, convergent

validity has been satisfied through (AVE) Average Variance Extracted in accordance with the article published by Hair et al., (2017). As shown in Table 4.1 all parameters exceed the recommended value of composite reliability i.e. 0.7 whereas the recommended value is given by Gefen, Detmar and Boudreau, (2000) and values of AVE are found to be above minimum value of 0.5 except Social Behavior which has been quoted in the research article by Bagozzi and Yougae, (1988). Subsequently, a new method to check discriminant validity, Heterotrait- Monotrait ratio of correlations (HTMT) approach has been applied (Henseler et al., 2015). According to result of test it was found that the values of HTMT were below maximum value of 1.0 for all parameters depicted in table 5.2.

Quality Criterion (Convergent Validity and Reliability)

Table 5.1 Quality Criterion (Convergent Validity and Reliability)

	Cronbach's Alpha	Composite Reliability	Average Variance Extracted (AVE)
Learning Ability	0.774	0.846	0.524
Motivation	0.73	0.837	0.635
Organizational Culture	0.794	0.875	0.701
Personal Values	0.686	0.863	0.759
Social Behavior	0.741	0.822	0.41

HTMT Table

Table 5.2 HTMT Table

	Learning Ability	Motivation	Organizational Culture	Personal Values	Social Behavior
Learning Ability					
Motivation	0.701				
Organizational Culture	0.256	0.438			
Personal Values	0.545	0.543	0.343		
Social Behavior	0.95	0.777	0.372	0.696	

6. Structural Equation Model- MultipleRegression

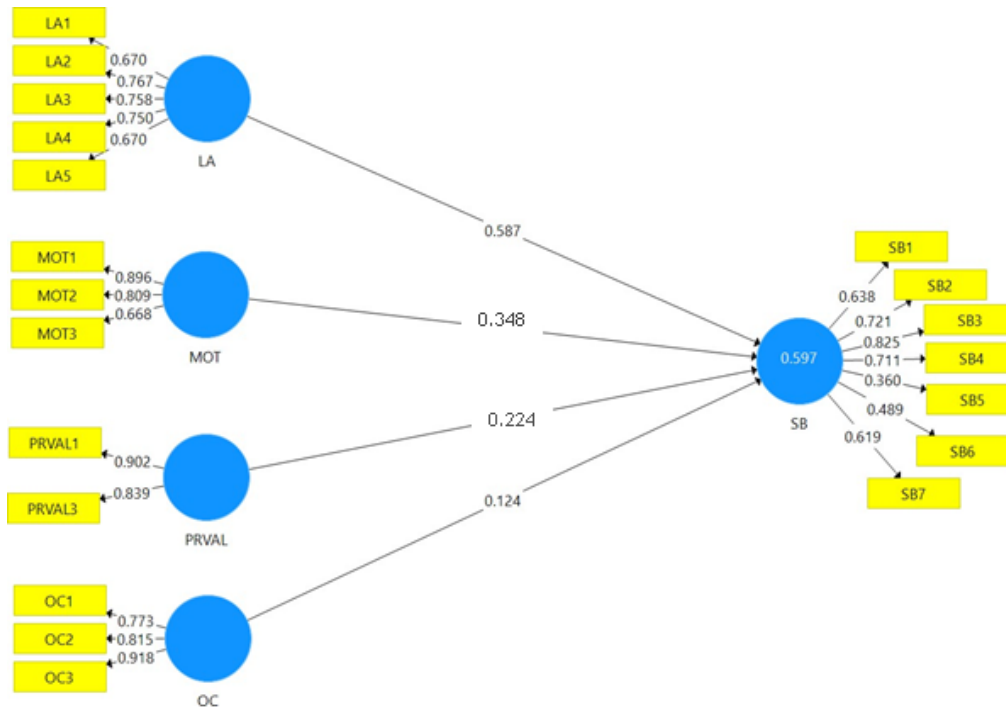


Fig 6.1 Multiple Regression Model using Smart PLS

Interpretation: The model shown in figure 6.1 shows the relationship between various independent variables and dependent variable. The various independent variables shown are Learning Ability, Motivation, Personal Values and Organizational Culture. The dependent variable is Social Behavior. The yellow boxes shown are the various indicators of the constructs asked in the questionnaire and the values nearby show the strength of the loadings. There are four path coefficient values obtained as there are four independent variables. The strength of the relationship of each independent variable with the dependent variable is shown using the path coefficient values. Finally, there is an R square value which represents the regression, i.e. percentage of change in dependent variable if the independent variable is changed. The regression value obtained here is 0.597, which means that the overall regression is moderately

strong. The highest path coefficient value obtained is 0.587 which shows the relationship between Learning Ability and Social Behavior. This means that Learning Ability has the strongest relationship with Social Behavior. The second highest path coefficient value obtained is 0.348 which shows the relationship between Motivation and Social Behavior. This means that Motivation also has a strong relationship with Social Behavior. The next highest path coefficient is 0.224 which shows the relationship between Personal Values and Social Behavior. This means that there is a strong relationship between Personal Values and Social Behavior. The remaining value is 0.124 which shows the relationship between Organizational Culture and Social Behavior. This means that there is not a comparatively stronger relationship between Organizational Culture and Social Behavior.

Hypothesis Testing (Path Coefficients)

Table 6.1 Hypothesis (Path Coefficients) Table

	Original Sample (O)	Sample Mean (M)	Standard Deviation (STDEV)	T Statistics ((O/STDEV))	P Values	Decision
Learning Ability -> Social Behavior	0.587	0.582	0.069	8.504	0.002	Reject
Learning Ability (Technology) -> Social Behavior	0.17	0.09	0.213	1.987	0.038	Reject
Motivation -> Social Behavior	0.348	0.352	0.085	2.932	0.023	Reject
Motivation (Technology) -> Social Behavior	0.193	0.177	0.293	3.766	0.0078	Reject
Organizational Culture->Social Behavior	0.224	0.224	0.063	5.986	0.067	Accept
Organizational Culture (Technology) ->Social Behavior	0.287	0.098	0.303	0.948	0.343	Accept
Personal Values-> Social Behavior	0.103	0.124	0.07	7.432	0.047	Reject
Personal Values (Technology)-> Social Behavior	0.286	0.245	0.321	0.89	0.373	Accept

7. Discussion and Results

After the research it was found out that the factors that influence the social behavior of a person are Learning Abilities, Personal Values, Organizational Culture and Motivation. The factors were shortlisted by referring to several researchers. Learning Ability is the ability of an individual wherein, he/she are competent enough to learn new things. The time a person decides to indulge himself in learning something, his/her behavior towards others changes. This is because the person sees things in different light. Motivation is a tool that encourages people to indulge themselves in certain things. In case of Social Behavior if a person is highly motivated to get himself/herself engaged in social affairs like talking to people, sharing ideas with them, etc. he/she will be more socially outward.

Organizational Culture is related to Social Behavior talked by several researchers who claim that having a positive, friendly, open, respectful Organizational Culture leads to a better social behavior of the person. Personal Values are the set of beliefs that a person holds for himself. The values that one has are influenced by the internal and external world both. In case of internal world, the person's experiences and emotions lead him/her to make a value system. It is only dependent on the person. Whereas, in case of external world, people like parents, family members, teachers, society, friends, acquaintance, etc. influence the values of an individual. The impact of factors affecting the Social Behavior of a person was found out by Partial Least Square (Structural Equation Modeling). From the Multiple Regression Model obtained in Smart PLS is

can be inferred that the highest path coefficient value obtained is 0.587 which shows the relationship between Learning Ability and Social Behavior. This means that Learning Ability has the strongest relationship with Social Behavior. The second highest path coefficient value obtained is 0.348 which shows the relationship between Motivation and Social Behavior. This means that Motivation also has a strong relationship with Social Behavior. The next highest path coefficient is 0.224 which shows the relationship between Personal Values and Social Behavior. This means that there is a strong relationship between Personal Values and Social Behavior. The remaining value is 0.124 which shows the relationship between Organizational Culture and Social Behavior. This means that there is not a comparatively stronger relationship between Organizational Culture and Social Behavior. Finally, there is an R square value which represents the regression that is the percentage of change in dependent variable if the independent variable is altered. The Regression value obtained here is 0.597, which means that the overall Regression is moderately strong. The correlation between the factors and Social Behavior were also checked. The results obtained were that all the constructs have a positive correlation with social behavior. It can also be seen that Learning Ability (0.95) and Motivation (0.777) have Strong Positive Correlation. Whereas, Personal Values (0.696) has a Moderate Positive Correlation with Social Behavior and Organizational Culture (0.372) has a weak positive correlation with Social Behavior. Apart from this various hypotheses were developed in order to check the positive/negative impact of these factors on Social Behavior. Upon testing it was found that Learning Ability, Motivation and Personal Values have a positive impact on Social Behavior. Whereas, Organizational Culture has a negative impact on Social Behavior. In order to analyze the role of technology in moderating the relationship between the

various factors and Social Behavior, several hypotheses were developed and checked. The results obtained show that, Technology positively moderates the impact of Learning Ability and Motivation when it comes to Social Behavior of a person. Whereas, Technology does not moderate the impact of Organizational Culture and Personal Values when it comes to Social Behavior of a person.

8. Conclusion

After the research it was found out that the factors that influence the social behavior of a person are Learning Abilities, Personal Values, Organizational Culture and Motivation. The factors were shortlisted by referring to several researchers. The impact of factors affecting the Social Behavior of a person was found out by Partial Least Square (Structural Equation Modeling). From the Multiple Regression Model obtained in Smart PLS it can be inferred that Learning Ability, Motivation and Personal Values have a relationship with Social Behavior. Whereas, the relationship between Organizational Culture and Social Behavior is not very strong. In order to analyze the role of technology in moderating the relationship between the various factors and Social Behavior, several hypotheses were developed and checked. The results obtained show that, Technology positively moderates the impact of Learning Ability and Motivation when it comes to Social Behavior of a person. Whereas, Technology does not moderate the impact of Organizational Culture and Personal Values when it comes to Social Behavior of a person.

Managerial Implications

Social Behavior is significantly associated with the practices in manufacturing and service industry. Technology plays a vital role in influencing the relationship between Social Behavior and its various factors. Managers can use this research to help influence the Social Behavior of the employees.

Learning Ability as a factor of Social Behavior

From the study it was found out that Learning Ability is a factor of Social Behavior. So, the managers can create an environment where the employees experience new things and learn from them. The managers must create an environment where the employees share new information with each other so that Social Interactions between employees happen. Technology plays a major role here, as the managers can create virtual communication channels where employees can interact and share information with each other.

Motivation as a factor of Social Behavior

From the study it was found out that Motivation is a factor of Social Behavior. So, the managers can make use of extrinsic motivation by paying bonuses, appreciating the employees when they work in a proper way. As per the study, when an employee is motivated his social behavior also changes as he tends to get involved in boosting his performance to be better. Technology plays a major role in influencing the motivation of an employee. Managers can provide Social Media recognition to the employees this will let the employee get motivated as he's appreciated on a public platform.

Personal Values as a factor of Social Behavior

From the study it was found out that Personal Values are a factor of Social Behavior. So, the managers must identify the values an employee holds and work according to his value system. If an employee's Value system does not allow him/her to work in a certain way which might be unethical for him but ethical for others, in such a situation managers should refrain from making the employee do that particular task.

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