

Innovative Decision Making Tool: Six Thinking Hats

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Abstract- The article emphasizes on one of the proven successful methods - Six Thinking Hats, Edward de Bono's concept of brainstorming and innovation that opens up the opportunity for creativity within decision making.

Creativity is defined as designing the way forward. Creativity is obligatory for change, improvement, perfection and ideas. In absence of creativity there is only repetition and routine. Often, the best decisions come out from changing the style about what you think about problems and investigating them from different perspectives. The necessity for the Six Thinking Hats is based on the understanding of how the brain chemicals change with respect to the mode of thinking.

Argument is always inefficient, ineffective and extremely slow. The concept of parallel thinking of Six Hats method is rapidly replacing argument around the world.

"Six Thinking Hats" encourages to look at problems from different perspectives, one at a time, which eliminates confusion arising from too many angles crowding your thinking; by breaking down opinions into six "parallel" or "lateral" areas it allows a range of thought, from gut feeling to data analysis, to be discussed separately.

With the application of these six styles of thinking in a structured way, groups can more effectively approach problem solving with creative thinking. It improves team productivity, communication and encourages parallel and full-spectrum thinking.

Keywords- Six Thinking Hats, Critical thinking, Parallel thinking, Problem Solving, Decision Making.

"Simple methods used effectively are more valuable than complicated methods that are difficult to understand and confusing to use".

-Edward De Bono

Introduction

The critical thinking process may be complex and may be confusing. Human thinking being unstructured and reinforced in a way that different types of thoughts can drive individuals and design thinking groups to think in some unorganized ways, which can lead to unexpected results.

In 1985, Edward de Bono- one of the pioneers of Brain Training and a renowned expert in lateral thinking first introduced “Six Thinking Hats” model. According to the model introduced, the thinking process must be followed in specific directions as per the necessity of the situation. It is very sad and uneconomical to have a room full of intelligent and highly paid people waiting for a chance to attack the speaker against his views presented. With the Six Hats method fullest use is made of everyone’s intelligence, experience and information as the method does not follow normal human thinking.

This method can be used during critical thinking session to achieve definite objectives such as solving issues, discussing argument, managing conflicts, profound analysis for planning process and successively running the creative thinking process. Basically Six hats technique was introduced for companies to improve the return of investment (ROI), it can productively be applied to school students for the use of design thinking in education.

“Six Thinking Hats Model” eradicates all “EGO” from the discussion process.

Objectives of the study

1. To study the motive of selecting the Six Hats, Six colours, and Six thinking styles.
2. To study the application of “Six Thinking Hats Model” for Critical Thinking, Problem solving and Decision Making under various domains.

I. Six Hats, Six Colours, Six Thinking Styles-

The Six colours: white, red, black, yellow, green and blue were picked up for a purpose. They were linked with certain circumstance which assists to remember the motive of each distinct hat as explained by Kivunja C (2015).

The Neutral White Hat:

Focus thoughts on information - the facts and figures that is needed in problem solving.

The three questions are

1. What information we have?
2. What information we need?
3. How we get the information we need?

The representation of white hat associates the data, as presented on white paper which is a typical typed report.

Further, on white paper only the printouts information is conventionally produced. Also, the facts and figures in books and newspapers are conventionally produced on white paper. The explanation for associating information to the colour white is because neutrality of the information is apt for signifying whiteness. What the white hat search for is “*Just information, with no suggestions, feelings, ideas or arguments*”.

When we put on the white hat Kivunja C (2015) says it conveys to us to proactively go out and search for information on how to proceed and move towards feasible and effective solution to be adopted rather than wait for a problem. We then become well educated about the problem or issue.

The Intuitive Red Hat:

Infinite use of feelings, emotions and intuition need not be justified.

The red hat provides the prospects to direct or present feelings with no place for justification with a motive of no fear of being judged. People have been given the liberty to freely express their feelings without any reason to search for logic. Hence, this hat provides window of chances for participants to be exactly what they are and be free on their opinion, with no threat of being challenged.

Red hat thinking answers to the questions

1. Do we like the situation emotionally?
2. What does your intuition tell you?
3. How do you feel about the options available?

The metaphor of a red hat associates “Think of the redness of fire. Think of anger and joy but also of warmth and contentment. The red hat includes both intense and gentler feelings” The reactions noticed with the usage of this hat include happiness, fury, distrust, terror, and grief. Feelings being wider than emotions and they include likes, worry, doubt, attentiveness, thrilling, dislikes etc. Moreover, Intuitions are even wider than feelings which emerges when behaves intuitively without exposing their activities related to explanation. Their probabilities are unknown and can be rational.

The Pessimistic Black Hat:

Warning! Difficulties, Dangers and Problems.

Black hat answers the questions -

1. What can go wrong and why something may not work?
2. Does this comply with our knowledge, experience, policy and strategy, ethics and values?
3. What is likely to happen in future and the risks involved?

The metaphor of black hat associates for the cautious critical thinking, the word critical in Greek means judge. Judges wear black and hence the colour black is suitable as it denotes a severe consideration of resolving disputes as explained by Kivunja C (2015).

The black hat is the hat of survival.

Associated with thinking of questions, checking its feasibility, proposals and its validity which is being evaluated to pass judgment by not being a bad hat. On wearing this hat it provides chances for evaluating the possible consequences of our decision, help save on costs of spending on unworkable strategies.

The Optimistic Yellow Hat:

Focus thinking on values, benefits and attainability.

Yellow hat helps to get answers to the questions-

1. What are the strengths and opportunities?

2. What are the positive aspects of the current situation, issue or a problem?
3. Why do you think it will happen this way?
4. Can this idea be made to work? Explain.

The metaphor of yellow hat associates this positive approach towards solving a problem because “Yellow can mean sunshine and optimism and looking on the bright side of things”.

The positivity is grounded on supportive data and it's just not imaginary or simple desires determined by sentiments mentioned by Kivunja C (2015). On wearing the yellow colour hat, “A suggestion is made, a solution is offered, a plan is put forward. The advantages that are claimed for each of these are going to come in the future. We must have good reasons for claiming that these advantages will come through”

The Creative Green Hat:

Mindful creative effort, ideas, solving problems and eyeing for options.

1. What are the other alternatives?
2. What are the new ideas, new concepts and new perceptions?
3. What are the available possibilities?
4. What will overcome our problems?
5. How can we innovate?

The essence of the green hat is related to creativity.

We can interpret the word creative as-

- Generating, producing and creating something which was not there.
- Having new ideas, fresh ideas and ideas that have not been used before.

The metaphor of green hat associates to the colour green symbol of growth and movement.

It brings you to think out of the box that is new thoughts, new potentials, new perspective, recommendations and plans not offered before. This is innovative and creative thinking. “This means moving forward to possibilities and new ideas”

The Managerial Blue Hat:

Control of thoughts, Topic definition, mentioning summaries, decision making and drawing suppositions.

The Blue hat is the controller hat. The person wearing blue hat arranges the sequential style of thinking. Blue hat thinking is thinking about the thinking necessary to understand the subject. The direction in which the subject thinking is to be done is controlled by the blue hat. It sets focused thinking by defining the issue and outlines the queries. It also determines the thinking tasks that are to be carried through.

The metaphor of blue hat associates the colour blue to the blue sky which is above everything. It raises our thinking level above and par to get an overview of this thinking.

The Blue hat nurses the thought process and regulates that the rules of the game are followed unlike other hats involved in finding only the solution of the problem. The hat ends argument and

imposes the discipline. It is utilized to set up sequential thinking operations which are to be followed. Though thinking role is allotted to single individual who acts as a facilitator, it is still open to everyone to propose blue hat interpretations and recommendations.

II. The Principles of the Six Thinking Hats model

In a meeting, randomly few participants chosen to wear black hat, few as to wear white hat and so on and adapt corresponding thinking style. For the whole meeting the participants then stick to those roles. This is incorrect which shouldn't be done the knowledge and aptitude of everyone must be utilized in each direction which is the whole point of parallel thinking as suggested by Meier JD (2007).

According to Mustafeh I, (2015) "individuals can think in six styles while using the Six-Hats, so when he changes the hat he changes his thinking style, he can use it individually, respectively, organized or spontaneously".

De Bono suggests the two basic ways to use the hats

1. Single Use:

The Six hats are being utilised as signs indicating a particular way of thinking. In conversation or discussion process you might need fresh options, here you should be using green hat and later in the same meeting you get an opportunity to tap into feelings, emotions and intuition of individuals here you should be using the red hat and so on.

2. Sequential Use:

- To solve a problem or explore a subject.
- The hats can be used one after other in a sequential manner.
- Often use of any hat as you like.
- Every hat need not be used.
- The sequence of hats can be made of two, three or more hats.

Discipline –

Members of the group must put on the hat that is signalled or communicated at that moment.

Only the facilitator or chairperson can signal the change of hat.

It cannot be used to denote what you want to say.

It signals directions of thinking.

Timing –

De Bono emphasizes to minimise time as short as one minute per person per hat with an exception to extend the time as long as genuine points are being made; rather than set a long time and have people sitting around and wondering what to say.

Red hat is an exception with respect to timing – the timing has to be short (one minute) to ensure the expression of feeling is brisk and definite.

Guidelines –

No correct order to follow.

A blue hat should always be used both at the beginning and at the end of the session.

- The first blue hat indicates:

- ✓ Why are we here
- ✓ What are we thinking about?
- ✓ The definition of a problem
- ✓ Alternate definitions
- ✓ What do we want to achieve?
- ✓ Where do we want to end-up?
- ✓ The background of thinking
- ✓ A sequential plan of hats to be used

-The final blue hat indicates:

- ✓ Outcome
- ✓ Solution
- ✓ Action plan

The sequence of other hats after first blue hats to be used depends on the nature of the thinking.

III. Application of “Six Thinking Hats Model” for Critical Thinking, Problem solving and Decision Making under various domains:

Motorola used Six Thinking Hats and Lateral Thinking to develop a High-Tech, Hand held communication device.

In 2002, Motorola wanted to create a “product for the future” with an objective of introducing a new futuristic, hand held device for people who did not want to spend more than \$800 but aspired for cutting edge technology. One of the Employees gave a general idea of De Bono’s Six Hat technique and lateral thinking where the meeting was started by introducing green hat to produce ideas for the “product for the future” followed by other hats used in the discussion the final result was development of the ideal product called Accompli and marketed as the Accompli 009 personal communicator.

Hewlett-Packard (HP) used Six Thinking Hats and Lateral Thinking to help organize a strategic planning meeting.

Hewlett-Packard (HP), today known worldwide for its Desk Jet and LaserJet or line printers is one of the largest electronics and computer companies in the world. May, 2002 Hewlett-Packard merged with Compaq Computer Corporation one of the largest technology merger in history operated in 40 currencies across 160 countries employing 142,000 employees.

To conduct the merger in line with the Hewlett-Packard corporate goals without losing the focus of customers, various teams within company were asked to create strategic plans. Team member Jon Albregts and Mike Sproul planned the Strategic meeting with the introduction of White hat where employees would discuss only with respect to information, facts regarding their business plan followed by yellow and black hats to analyse each initiative. Further followed by lateral thinking sessions to identify constructive ideas leading to effective solutions. Red hat was used to express gut feeling about the initiative. Lastly, blue hat assisted them to find steps for implementing the plan.

The Six Thinking Hats model provided insight team needed to move initiatives forward and arrive at everyone's satisfaction without usual tried arguments and debates popped up during meetings.

Currently, De Bono's Six Hats Model and Lateral Thinking for several years for now is being as quality initiative at Hewlett-Packard and this success story of Six Hats model is spread across the other divisions at Hewlett-Packard.

IBM Chief Scientist uses Six Thinking Hats to develop a Chip that mimics the human brain as a collaboration tool.

The issue of Fortune Magazine (04/28/14) highlights the approach taken by IBM fellow and chief scientist Dharmendra Modha in an article "The New Teamwork: Collaboration has never been more crucial in business"

Chief Scientist, Dharmendra Modha found Six thinking hats technique apt for him to facilitate a group of highly academic 200 scientists as the emotions are removed out of argument and helped groups to arrive at better quicker effective outcomes.

Boeing uses Six Thinking Hats and Lateral Thinking to erase partisan lines between union and management to analyse challenge and arrive at a solution.

A leader in the Canadian aerospace industry, Boeing Toronto Ltd., in late 1990's faced an employee challenge for employees returning to work after the disability leave to make more light duty jobs available for them and also ensure that the union agrees all variations of the company in order to overcome the deadlock as the Joint modified work committee called upon to resolve this predicament consisted of both union and management representatives came up with a list of 24 possible solutions but the challenge was to arrive at a win-win solution by determining the idea and the best feasible solution to implement which was needed to erase the partisan lines.

Hence, the President Steve Fisher encouraged the use of Six Thinking Hats the result was an early retirement incentive package called the Voluntary Exit Program where, light duty jobs were freed up without aggravation or resentment as senior union members convinced to retire timely.

Connex used Six Thinking Hats and Lateral Thinking to develop leadership competencies in employees identified as high - potential company leaders.

Connex Romania's mobile telecommunication was recognized multiple times as the "Best company in Romania" to sustain its position as the market leader it involved a great deal of creativity and innovation among the company leaders and employees and this company certifies Connex employees as de bono trainers for the transition from high potential employees to leadership positions better equipped and confident in their skills as this has sparked a new level of creativity within their organization.

Review of Article in Volume 2 Issue 2, 2012 of the Asian Journal of Management Research (ISSN 2229-3795) by Mitez S, Group Head of Treasury at Bank of America.

According to Mitez S (2012) the concept of Six Thinking Hats Model is coined to be used in both individual meeting and group meetings. It also mentions that this concept need not be necessarily used at workplace but can also be used by students to decide the stream to opt as specialisation, the project to go for in their summers or the job offer they should take after

completing their MBA. It offers this technique to be used as a platform to arrive at solution that will reduce time to arrive at conclusions.

Sri Lankan and German governments post tsunami reconstruction used the Six Thinking Hats Technique.

As per ODI reports Sri Lankan and German governments post tsunami reconstruction commenced the jointly project planning session by adopting De Bono's methodology and mutually led the planning of the complete project. During the commencement of meeting used this technique to produce a mutual sense of the key issues in the reconstruction process that needed to be further discovered and practically addressed.

Few others are,

- **ABN AMRO** used Six Thinking Hats to help employees ideate which increased from 60 to 900 in one year to top management.
- **BOSCH** uses Six Thinking Hats at meeting to save time and keep egos in check. It was also noticed that this approach encourages groups to escape from monotonous business work, to introduce a new facet into conversation.
- **Hospitals** noticed six thinking hats method were priceless in the rehabilitation of children with post-operative problems, hats were replaced by balloons as a tool which allowed the children to built-up discussion between their families and the medical staff in charge of their care.
- **J. Walter Thompson's Ford** account team, wanted to target the demographic segment of 18-25 years, to position the Ford as a highly desirable vehicle has achieved the feat through the use of Edward de Bono's Six Thinking Hats.

Interpretations:

The prime purposes of the Six thinking hats concept are:

- To simplify thinking by allowing a thinker to deal with one thing at a time.
- To permit a switch in thinking.

Efficient uses of Six Hats method in organizations have led to:

Power: A magnet is powerful because all the particles are aligned in the same direction. Similarly, knowledge, intelligence and experience of all the group members should be utilised by thinking and working in similar direction.

The focusing of the sun's rays can melt the toughest of the metals. Likewise, mental ability of all the group members focused on a problem will result in quicker and easier solution.

Time Saving: In ordinary thinking or argument, if someone speaks it's a tendency that others will have to respond even if it is only out of politeness. But in case of parallel thinking, every person every second is thinking in single direction. The views are placed in parallel. Nobody tries to interfere with the views presented by the last person. News ideas are just added to additional idea in parallel. Towards the end, full topic is quickly explored. Generally, if ideas of different views are at odds, then they are argued out. With parallel thinking points of different views are laid out beside each other and if essential a decision is made between the two. This eliminates argument at every step and results in effective utilization of time.

Removal of Ego: People tend to use thinking to parade their egos. Thinking is used to show how clever you are. It is utilized to attack and put down other people. In general, we never try to completely understand how ego can be obstructive in blocking effective thinking. With the application of Six Thinking hats method under each hat members exert their ego by executing out well as a thinker.

One Thing at a Time: In the process of colour printing, each colour is printed separately, one at a time, and in the end the full colour effect is obtained. With the six hats method we try to do only one thing at a time and in the end the full picture emerges.

Conclusion:

The study concludes that complexity is the biggest enemy of thinking, that leads to confusion. Simple and clear thinking is more effective and more enjoyable. Six Thinking Hats method lets the brain to maximise its capacity that promotes quality thinking and communication which is proved to be an effective tool for Critical Thinking, Problem Solving and Decision Making. Also, it helps in discouraging Ego Driven Meetings and encourages Constructive, Productive and much faster meetings.

Parallel thinking becomes essential with the increased emphasis on innovative and creative solutions while working in teams. Various techniques have been established and accomplished. The methodology as devised by Edward De Bono is a technique with parallel thinking ability devised in response of argumentative thinking like we usually see in discussions and meetings.

Parallel thinking technique defines as adopting same type thinking at same time, it enables one to think other than their own preferred way. Six thinking hats deals with the problem by providing mechanisms that results into proper and productive discussions, reduction of conflicts and provides right thinking mode to see right without any bias.

The Six Thinking Hats methodology provides a structure for interaction between diverse members of a group and is also effective as a tool for cross cultural interaction. It promotes collaborative thinking, reduces conflict, enhances creativity, promotes innovation and improves confidence of individuals. It is used by various corporates as a technique to innovate and synergise to provide creative solutions to the new world problems. The method has been found effective as a teaching tool to improve creativity among students at an early stage, it helps sharpens focus, facilitates communication, fosters creativity and innovation. In meetings and discussions, it helps save time and boosts productivity by providing a structured framework for the discussions.

The Six Thinking Hats technique today has become a widely used technique across organisations and schools and with its advantages it has been able to provide valuable insights into the decision making process.

Discourage Ego Driven Meetings and Encourage Constructive, Productive and much faster meetings: Ego is the biggest obstacle of quick and effective thinking. As explained by Bueno and Jeffrey (2015) the fundamental issue drops to communication and our ability to see multiple perspectives. We tend to see the world through a single, fixed perspective. We either

agree or disagree with others perspective. The progress comes to halt when two people with disagreed perspectives can't come to agree on a single point.

Consider a scenario where a person has been persistently negative at a meeting this member is being asked remove the black hat which signs that he or she is being persistently negative and is being asked to put on the yellow hat which is an implied appeal to be positive.

Thus through this practice six hats deliver a well-defined idiom without being offensive by changing it into a game or play-acting. This concept of usage of the hats makes it possible to allow a switch in thinking without hurting the ego and arriving at a constructive and productive solution.

Remember, these six hats demonstrate perspectives, not people or personalities.

Recommendations:

Based on the study findings, the following recommendations are suggested:

- Crucial interest should be taken more by universities, faculty, MNCs, hospitals and even in other organizations to the Six Thinking Hats technique as it promotes meetings' outcomes and helps to avoid to rely on judgments of a few top-management employees so that decision making becomes a structured process.
- It reduces uncertain risk helps to make more rational decisions and to be encouraged more in the Indian organisations as US organisations are already adopting these methodologies.

References:

AL-Khataybeh, M. and AL-Tarawneh, N. (2015). The Effect of Using the Six Thinking Hats Method on the Development of EFL Female Eleventh Grade Students' Writing Skill in Southern Al-Mazar Directorate of Education. *INTERNATIONAL JOURNAL OF ARTS AND HUMANITIES*, Volume 1 No. 4, 2015.
Retrieved from <http://ijah.cgrd.org/images/vol.1no.4/4.pdf>

Kivunja, C. (2015). Using De Bono's Six Thinking Hats Model to Teach Critical Thinking and Problem Solving Skills Essential for Success in the 21st Century Economy. *Creative Education*, 6, 380-391 https://file.scirp.org/pdf/CE_2015031710033222.pdf accessed on 27 July 2017 at 9.00 p.m.

Mustafeh, I. (2015). The Effect of Implementing Six Hats Teaching Method on the Performance of the 8th Grade Students in Islamic Education. *INTERNATIONAL JOURNAL FOR CROSS-DISCIPLINARY SUBJECTS IN EDUCATION (IJCDSE)*, Volume 6, Issue 3, September 2015. Retrieved from <http://infonomics-society.org/wp-content/uploads/ijcdse/published-papers/volume-6-2015/The-Effect-of-Implementing-Six-Hats-Teaching-Method.pdf>

Sheth, M. (2012). Six Thinking Hats. *ASIAN JOURNAL OF MANAGEMENT RESEARCH*, ISSN 2229 – 3795, Volume 2 Issue 2, 2012.
Retrieved from <http://www.ipublishing.co.in/ajmrvol1no1/voltwo/EIJMRS2071.pdf>

BJ, B., and Jeffrey, S. (2015). The Cult branding company.
Retrieved from <http://cultbranding.com/ceo/six-thinking-hats/> accessed on

25th Aug 2017 at 7.00 p.m.

Collaboration Mechanisms: Six Thinking Hats. Retrieved from <https://www.odi.org/publications/5231-six-thinking-hats-edward-de-bono> accessed on 26th Aug 2017 at 8.00 p.m.

Cormie, J. (2012). The Six Thinking Hats. Retrieved from <https://www.biggerplate.com/mindmaps/UbvRoAId/six-thinking-hats> accessed on 26th Aug 2017 at 9.00 p.m.

Case Study: Connex. Retrieved from <https://debonoconsulting.com/wp-content/uploads/2016/08/de-bono-case-study-connex.pdf> accessed on 26th Aug 2017 at 11.00 p.m.

Elmansy, R. (2017). The Six Hats of Critical Thinking and How to Use Them. Retrieved from <http://www.designorate.com/the-six-hats-of-critical-thinking-and-how-to-use-them/> accessed on 27th Aug 2017 at 7.00 p.m.

Case Studies: IBM Chief scientist uses Six Thinking Hats to help develop chip that mimics human brain. Retrieved from <https://www.lyndacurtin.com/index.php/services/case-studies/163-ibm-chief-scientist-uses-six-thinking-hats-to-help-develop-chip-that-mimics-human-brain> accessed on 27th Aug 2017 at 7.30 p.m.

IBM turns to Six Thinking Hats. Retrieved from <http://www.holstgroup.co.uk/ibm-turns-to-six-thinking-hats/> accessed on 27th Aug 2017 at 8.00 p.m.

Illumine training – Six thinking Hats. Retrieved from <https://s3-eu-west-1.amazonaws.com/illumineweb/topic-guides/Six-Hats.pdf> accessed on 27th Aug 2017 at 8.30 p.m.

Ideas Management Consultants – Case Studies Six thinking Hats. Retrieved from <http://www.ideas-consulting.com/casestudies.asp> accessed on 27th Aug 2017 at 9.00 p.m.

Mathew, K. Edward de Edward de Bono's six thinking hats Retrieved from <https://www.miun.se/siteassets/fakulteter/nmt/summer-university/bonopdf> accessed on 28th Aug 2017 at 7.00 p.m.

How to use the Six Thinking Hats methods, Retrieved from <http://blogs.msdn.com/b/jmeier/archive/2007/09/19/how-touse-the-six-thinking-hats.aspx> accessed on 10 Aug 2017 at 12.00 p.m.

Martinez, M. (2017). Using storyboarding and de Bono's Six Thinking Hats. Retrieved from <http://www.storyboardthat.com/articles/b/six-thinking-hats-examples> accessed on 25 Aug 2017 at 9.00 p.m.

Meier, JD. (2007). How To Use the Six Thinking Hats. Retrieved from <https://blogs.msdn.microsoft.com/jmeier/2007/09/19/how-to-use-the-six-thinking-hats/> accessed on 25 Aug 2017 at 11.00 p.m.

Okhuysen, N. (2016). Six Thinking Hats.

Retrieved from <http://www.storyboardthat.com/storyboards/nathanael-okhuysen/the-six-thinking-hats> accessed on 21 Aug 2017 at 10.00 a.m.

Poulin, Thomas E. (2009). Put Your Thinking Hats on. *Database: Business Source Ultimate* Nov2009, Vol. 53 Issue 11, p32-36. 4p. Retrieved from <https://eds.b.ebscohost.com/eds/pdfviewer/pdfviewer?vid=5&sid=55886cde-331e-42d4-bb71-c4fedfe843c3%40sessionmgr103> accessed on 22 Aug 2017 at 10.00 a.m.

Put on your Six thinking hats. Retrieved from http://www.educationworld.com/a_curr/voice/voice102.shtml accessed on 22 Aug 2017 at 11.00 a.m.

Ritsema P. (2004). Happy Heart Software. Retrieved from <http://www.heartsunlimited.net/happy-hearts-software/six-thinking-hats.html> accessed on 21 Aug 2017 at 9.00 p.m.

Serrat, O. (2009). Wearing Six Thinking Hats. Retrieved from <https://www.adb.org/sites/default/files/publication/27648/wearing-six-thinking-hats.pdf> accessed on 22 Aug 2017 at 11.00 a.m.

Six Thinking Hats Case Study: 3M. Retrieved from <https://www.google.co.in/url?sa=t&rct=j&q=&esrc=s&source=web&cd=6&cad=rja&uact=8&ved=0ahUKEwjum6fjoczWAhXBLI8KHeJICLMOFghDMAU&url=http%3A%2F%2Fleewardteam.com%2Fwp-content%2Fuploads%2F2014%2F09%2FSix-Thinking-Hats-Case-Study-3M-Innovation.pdf&usg=AOvVaw0h8BICRgK6lfsDtjeUcYBN> accessed on 25 Aug 2017 at 1.00 p.m.

Six Thinking Hats – the most powerful tool. Retrieved from <http://www.edwdebono.com/> accessed on 25 Aug 2017 at 9.00 a.m.

Six Thinking Hats – Case Study: Hewlett Packard Retrieved from <http://leewardteam.com/wp-content/uploads/2017/09/case-study-hp.pdf> accessed on 25 Aug 2017 at 10.00 a.m.

Six Thinking Hats Leads to Innovative Thinking. Retrieved from <http://sixthinkinghats.com/> accessed on 25 Aug 2017 at 11.00 a.m.

Six Thinking Hats Retrieved from https://www.mindtools.com/pages/article/newTED_07.htm accessed on 27 Aug 2017 at 11.30 a.m.

Six Thinking Hats facilitator guide. Retrieved from <https://www.toastmasters.org/~media/e8118fa80fc04740a8d132be75f3eaca.ashx?la=en> accessed on 27 Aug 2017 at 12.00 p.m.

De Bono, E. (1956). Six Thinking Hats. Cambridge: Little, Brown and Company.