

T.L. Saaty Decision Making for Leaders Hackathon

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How long does it take to learn and use AHP for managerial decision making? Based on a recent experience, it can take a surprisingly short time! Students

from the University of Pittsburgh competed in the first T.L. Saaty Decision Making for Leaders Hackathon from March 18 to 20, 2022. The Hackathon was jointly sponsored by the University of Pittsburgh Business School and Creative Decisions Foundation (CDF), the nonprofit established by Thomas L. and Rozann W. Saaty to promote the cause of rational decision-making. CDF is a community-based initiative, bringing academia together with businesses, nonprofits, and other organizations. Undergraduate and graduate students at the University of Pittsburgh were invited to participate in the three-day event and could register individually or in teams of up to three participants. Applicants were told they did not need any prior knowledge of AHP as there would be training in AHP and ANP methods and related software tools in the morning during the first day of the hackathon. Executives from Microsoft, the partner company for the Hackathon, would present the main concerns of the company and then based on these concerns the teams would select their decision topic.

The Saaty Hackathon

Hackathons originated as competitive events for programmers that last two or three days, and involve programmers writing code for a challenging problem. These programmers frequently stay up all night to work on the problem. Sleeplessness is a point of pride in the programming world, so these programmers adapted well to the speed of the competition. Recently, Hackathons have moved into the business world with the objective of finding solutions to given industry problems or exploring a particular technology's possibilities. Microsoft was chosen as the business partner for the inaugural T.L. Saaty Hackathon.



Microsoft executives explain the company's challenges

Day One

During the first day, Microsoft executives Dan Menicucci, John Yokim, and Chris Jones introduced the aims and strategic objectives of the company and the issues they are facing or have faced in the past. These issues include questions such as should they move more to the cloud and expand their server farms, how can they ameliorate the risks associated with security issues, and how can they attract and retain good employees? Also, a current ambition for most companies is to be as green as possible, acknowledge that the environment is deteriorating, and work to limit their impact on it.

After the Microsoft executive's presentations, participants were able to have hands-on practice with the decision-making software tools that would be used the next day. At the end of the day, the teams selected their projects and began discussions about how to proceed. Certificates in "Decision-making for Leaders" were awarded to participants who completed the first day's training.



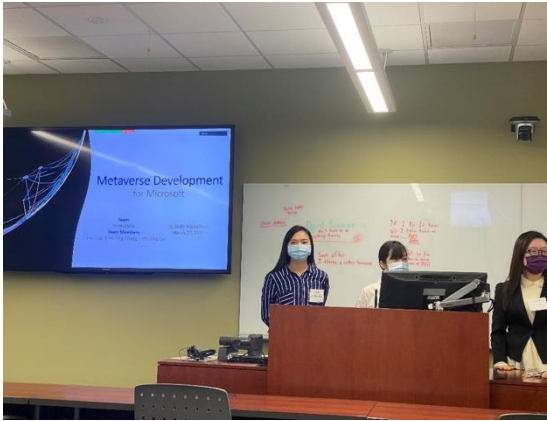
Dr. Elena Rokou, Chief Research Scientist of Creative Decisions Foundation, training the teams in AHP/ANP methodology and the software tools

Day Two

On the second day, the work began as the teams separated into rooms in the University of Pittsburgh Business School to begin structuring their decision models. Dr. Elena Rokou and Dr. Lirong Wei, both of Creative Decisions Foundation, circulated throughout the building to offer advice and help. The first task for the teams was to clearly define their decision-making problem, and then structure the framework, identify the decision factors, and model the problem, using the software tools they had been introduced to the day before. The teams finalized their case studies in the afternoon of the second day and set up their presentations for the judges to be presented the following day.

Day Three

On the third day, the teams presented their decision projects before the preliminary judging panels that were hybrid with some present on Zoom and some local judges in the room. To emphasize the global reach of the AHP community, some of the experts that zoomed in from abroad were Bill Wedley (Canada), Rafikul Islam (Malaysia), Iwan Azis (Indonesia), Shashi Bhattarai (Nepal) and Mujgan Sagir (Turkey). Luis Vargas, Marcel Minutolo, John Saaty, Birsen Karpak and Enrique Mu were among the expert judges that participated in person. Teams were allotted fifteen minutes to present, followed by a ten-minute question and answer (Q&A) session. Four finalist teams from the first round presented their projects again before the final judging panel. The final judging session was open to the public and non-finalist teams that wished to sit in.



Metaverse team in action



Some of the finalists after 2nd round of judging

The members of the winning team were Shri Krishna Kumar (Shri) and Enkhjargal (Taqi) Ganbaatar shown with Rozann Saaty receiving their winning project prize of \$3,000. Shri is a graduate student in industrial engineering (from India) and Taqi is a graduate student in marketing (from Japan) at the Pitt Business School. They did not know each other and neither knew anything about the AHP before signing up for the competition.

They were assigned to the same team by the program organizers at the beginning of the first day.

Shri and Taqi receiving their winning prize check from CDF President Rozann Saaty.



The Winning Decision

Shri and Taqi's decision project was to figure out, using AHP, how Microsoft could better retain employees. Microsoft employs approximately 181,000 people worldwide in full-time positions with around 60% residing in the United States. During the current "great resignation", many employees have quit their jobs and, like many other companies, Microsoft is struggling with this reality. The winning team's decision was that Microsoft should develop an AHP app to prioritize the attributes of open jobs. Job applicants, using the same app, would derive their own personal job priority vectors. An applicant whose personal priority vector was compatible with an open job priority vector, using the AHP compatibility index, would be offered the position. Employees hired this way would be less likely to quit.



Shri Krishna Kumar (Shri) on the right, Enkhjargal (Taqi) Ganbaatar on the left, and Dr. Elena Rokou in the center, after their first-round presentation.

The Epilogue

It has been reported by many who teach decision making that their students like the approach very much and find it easy to use. The experience of the winning team seems to confirm this. The way their project unfolded is interesting. Shri and Taqi did not know anything about the AHP and had not even met each other before the Hackathon, but were able to quickly catch on to the AHP by working together. Also, their professional experiences were complementary. Taqi had worked in Japan in human resources (HR), so the hiring issue attracted her. Shri, with his background in engineering technology and computer skills, could cope with the theory and software. They realized that matching the priority vectors of employers and employees could be extremely useful in making sure new hires stay with their jobs and were able to develop the winning proposal. Interestingly, they had not realized there would be a monetary award until they won the prize. Their decision to participate, though not arrived at using AHP, was their first winning decision!



Organizers and judges celebrate the successful completion of the first T. L. Saaty Hackathon