4-2022

Developing future-ready talent through 'real-world' digital projects

Gary PAN
Singapore Management University, garypan@smu.edu.sg

Benjamin Huan Zhou LEE
Singapore Management University, benjaminlee@smu.edu.sg

Yuanto KUSNADI
Singapore Management University, yuantok@smu.edu.sg

Developing future-ready talent through 'real-world' digital projects

29 Apr 2022

By Gary Pan, Benjamin Lee & Yuanto Kusnadi

A close collaboration between university and industry partners through 'real-world' digital projects could help develop future-ready accountants

The digital revolution forces every organisation to reinvent itself, or at least rethink how it goes about doing business. With increasing automation in business processes, there is an urgent need for employees to upskill their digital skills so as to better manage automated business processes and activities. In response to the fast-changing work environment, universities today are shifting their emphasis from traditional classroom teaching to facilitating active learning, focusing on applying and reflecting knowledge.

A popular form of active learning is project-based learning (PBL) that focuses on addressing unresolved issues or problems confronting corporations, non-profit and governmental organisations. Such collaboration with industry partners provides students with the opportunity to apply their learning from academic studies to 'real-world' projects and reciprocate learning back to their studies. Typically, PBL is enacted in a collaborative, hands-on process driven by real-world connection. It uses authentic projects as a vehicle to encourage deeper learning through collaboration and extended inquiry and culminates in a final product or event as a showcase.

One such PBL model that has worked well is the collaboration between the Internal Audit function (IA) of the FairPrice Group and Singapore Management University's School of Accountancy through its flagship Accounting Analytics Capstone (AAC) course in the Master of Science in Accounting (Data and Analytics) programme launched in 2018. AAC is part of the University-wide experiential learning pedagogy, SMU-X.

Through their student consultancy project in AAC, students learn to solve complex business problems within real-world settings under the guidance from the faculty and project sponsor mentors, beginning with problem definition and culminating in a final client presentation. Structured as a student consultancy project, students work with companies and help make a real-time impact by delivering analytics solutions to their business problems. In this way, industry partners are helping to groom future talent. The collaboration in projects allows industry partners to spot talents early and play a decisive role in transforming them into future-ready talents.

DIGITALISATION OF FAIRPRICE GROUP'S INTERNAL AUDIT FUNCTION

In July 2021, the IA function of FairPrice Group commissioned a team of five accounting students to develop a risk profiling model and dashboard to track the risk profiles of food outlets that are

managed by the FairPrice Group Food Services, namely Kopitiam and NTUC Foodfare. This would allow the IA team to effectively plan the team's resources by identifying and prioritising high-risk food outlets for audit through automation.

For this project, the students had to apply their knowledge of accounting data analytics and combine it with a multidisciplinary approach to identify and analyse the risk level of each food outlet. Quantifying and analysing risk are a vital part of making important business decisions. Increasingly, business organisations like FairPrice Group, are moving away from analysing risk based solely on previous experience and business acumen to a more balanced approach that relies heavily on data driven evidence-based analysis.

Also, the risk assessment has to relate to the data that are generated and the sensitivity of that data vis-à-vis compliance issues. During the project, students had to establish a data model before analysing risk. Building the data model involved understanding relevant data governance questions that include: Who owns the data? Who has access to the data? What kind of data is it? Where is the data stored? And how does FairPrice Group ensure data validity and reliability?

By using data relating to sales, cash payments, and penalties, the student team generated risk indicators and built the risk profiling model to identify the riskiest outlets using K-means clustering. The process involved categorising transactions into "high risk", "medium risk" and "low risk". Using the analysis findings, algorithms could be put in place to predict whether a transaction is likely to be "high risk", and intervention action could be quickly deployed to block such a payment. In the end, the results and risk factors were visualised through Tableau dashboards; various dashboards were created for the Management's overview and for the IA team to easily identify potential outlets for audit.

The student team worked well together with FairPrice Group's IA team to deliver dashboards that were intuitive and targeted to resolve the problem statement of the project. During the project, the students received useful advice from faculty and obtained positive feedback from FairPrice Group's IA team. Overall, the AAC project provided students with valuable experience, and developed and strengthened their technical skills, communication skills, and teamwork which are essential to handle real world projects. The project experience has taught students that a combination of solutions/workarounds might be required to solve real-world problems and it is imperative for each team member to pull their weight and, at times, cover for each other to ensure a timely and accurate delivery of the project.

Ms. Cheah Yee Hooi, Director and Head of Internal Audit, FairPrice Group commented: "We are impressed by the students' understanding of business problems, and their professionalism and teamwork displayed was exceptional. The proposed data analytics solutions were practical and have met our needs."

BENEFITS OF PARTNERSHIP

Project-based courses require extensive preparation, client and process management, and post-course follow-up work. But they also provide opportunities for students to integrate their

classroom education with industry partner engagement. PBL presents yet another opportunity to bridge the academic-practice divide. Both industry partners and universities could work together to provide more opportunities for hands-on learning and improve the university experience for students. This would certainly help to develop a future-ready talent pool.

Such partnerships could also bring to companies completely new perspectives to some of their pre-existing problems, and sometimes even learn of a novel and effective solution to an issue. Additionally, companies could work with some of the students prior to recruitment visits. From an education standpoint, collaboration through PBL between industry partners and academia, if done effectively, could also provide a well of opportunities to bring educational value to new heights. We foresee that such collaboration between industry partners and universities will grow quickly in the years to come.

Gary Pan is Professor of Accounting (Education) and Associate Dean for Undergraduate Admissions and Student Development at School of Accountancy, Singapore Management University; Professor Pan is also Academic Director of SMU-X at the Provost's Office. Benjamin Lee is Lecturer of Accounting and Director of Student Matters and Yuanto Kusnadi is Associate Professor of Accounting (Education) at the same school.