Proposal to Incorporate Automation Skills in Accounting Curriculum Funded by CityU Teaching Development Grant (TDG)

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New technologies, such as big data, machine learning, automation and the internet of things, are swiftly transforming the accounting profession. With support from the Department of Accountancy, my colleague Dr. Kevin Zhu and I began to incorporate elements of these new technologies into the accounting information system (AIS) curriculum. One such element involves teaching students techniques to automate repetitive tasks. Initially, I taught Web-crawling skills using R. However, I found that students often perceive such new technologies to be too technical (i.e. requiring a computer science background and coding skills) for business majors. I therefore explored robotic process automation (RPA) as an alternative automation solution.

RPA uses business intelligence software to automate routine user-defined tasks. RPA software can integrate different functional modules and enable users to design tailored solutions by combining different modules to automate repetitive labor-intensive tasks. RPA is very powerful, yet it requires minimal coding skills and is thus very user-friendly to business major students. Seeing the appeal of RPA skills and the growing demand for them from the business sector, Dr. Zhu and I decided to incorporate RPA skills into the AIS course, and we wrote a teaching development grant proposal titled "**Adopting Robotic Process Automation Technology in Problem-Based Learning: A Student Discovery Approach.**"

We face two main challenges in convincing the committee that our proposed plan can effectively deliver the desired learning outcome. The first challenge is to identify RPA application scenarios. Most of the target students are undergraduates with no prior working experience. As such, they may find ready-to-use RPA examples inapplicable to their lives. The second challenge is to identify a proper way to evaluate the project outcome. Although we expect students to benefit extensively from their RPA skills after they start working, more timely feedback is needed on the outcomes of the proposed teaching plan. To overcome these challenges, we adopt a problem-based learning approach that requires students to identify tasks from their prior business courses that can be automated. This helps students to integrate new technologies into traditional business tasks and vividly illustrates the efficiency improvement provided by RPA. This problem discovery approach also provides a novel way to evaluate the project outcome. We plan to ask students to estimate the time that they spent on their identified tasks and their related job satisfaction before and after RPA implementation. The degree of work efficiency and job satisfaction improvement will then be used as qualitative metrics to evaluate the job outcomes.

The proposal was approved by the TDG panel in December 2021. Accordingly, the University will provide HK$232,240 to support the project to run from January 2022 to June 2023. We appreciate all of the support from our department and the university, and we look forward to incorporating other new technologies into our courses in the future.