PROBLEM STATEMENT

CEOs all over the globe and across industries are recognizing the need to generate value in a multidimensional way. Existing business metrics for success focus primarily on revenue and shareholder returns, which do not offer a view into how business can create value for all stakeholders. In view of these trends, we aimed to develop a new metric measuring Customer Experience to help businesses deliver value for all stakeholders.

GOALS

1. Develop an NLP algorithm that counts the number of Customer Experience related sentences in earning calls
2. Define normalization method that defines companies’ Customer Experience Index over time
3. Develop an analytical approach that links the Customer Experience score to companies’ financial performance

DATA WORKFLOW

To develop an effective and optimized deep learning model, we needed a labeled dataset. Manually creating a labeled dataset would require over 45 days of work for one person. To save time, we automated the process using the following steps:

1. Obtain manually labelled sentences from subject matter experts related to Customer Experience.
2. Use cosine similarity to systematically identify and extract new sentences that are >80% similar to the input.
3. Use augmentation, every input sentence generated 5 new ones.
4. Determine the effect of the additional sentences on the model’s prediction.

DEVELOPMENT

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ECONOMIC IMPACT

LINEAR REGRESSION MODEL

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\text{Index Creation}
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\text{Performance Metrics} = \beta_0 + \beta_1 \times (CX \text{ Index}) + \beta_2 \times (Controls) + \epsilon
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The Customer Experience Index is used as an input in the financial performance metric to predict the economic impact of Customer Experience across industries and quantify the economic value of Customer Experience. This is critical for executives to drive strategic business insights, as a numeric score allows them to identify where and how their organization needs improvement in the dimension of Customer Experience.

IMPACT

Our approach suggests a novel way of viewing and measuring company success through the lens of Customer Experience. Using Natural Language Processing, we have created a metric which was previously unquantified and have created a strong foundation for future work on the topic. This project ultimately supports Accenture’s efforts through 3 main aspects:

1. Creating a new project that can be repurposed for other (aspects of the work beyond CX) dimensions
2. Foundational model for further development and adoption for other metrics as well as future use with clients
3. Supporting critical broader effort to anticipate and manage change across industries

WHY CUSTOMER EXPERIENCE?

Customer experience is an important aspect of company success, affecting market share, growth, and reputation. It is also very difficult to track, as customer preferences are constantly changing over time. The Customer Experience dimension was chosen due to its critical role in company success as well as modelling challenges.