# Bordeaux 2016 Abstract Submission

**Title**
Cider Wine Production in Quebec at the Economic Crossroads: A Mixed Method-based Perspective

**I want to submit an abstract for:**
Conference Presentation

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**Keywords**
Cider wine (hard cider), ice cider wine, industry growth, group concept mapping, mixed methods

**Research Question**
What are the key economic drivers and levers the Quebec cider producers can activate and pull in order to stimulate cider growth production and consumption, and why?

**Methods**
Group Concept Mapping, a multivariate mixed methods-based approach, using a bottom-up process by which a group of participants (i.e., cider, and cider wine makers) engages in sensemaking activities.

**Results**
Results indicate there is a stronger consensus amongst cider wine makers to prioritize strategic initiatives associated with the clusters: Communications with Consumers, as well as Production Regulations and Institutions.

**Abstract**
Over the 2004-2014 period, the sales of apple cider products (hard cider) in Quebec have risen by nearly 1% per year, while the overall trend for Canada exhibits a growth rate of about 15% per year (Statistics Canada, 2015). Hence, over that time, Quebec's share of the overall Canadian cider sales has steadily declined from nearly 20% to 8.5%, while in 1992 it was 40% that of Canada (Statistics Canada, 2015). These trends are somewhat alarming given they are experienced in a context where newly high growth consumption patterns are observed in the emerging and fast growing ready-to-serve cider markets in the U.S., UK and Canada (excluding Quebec), as a genuine substitute for beer products. For a time, the Quebec industry has been at the forefront of product
innovation in the early 1990s, such as the distinctive and high end-ice cider wine which now has since 2014 acquired the Protected Designation of Origin (PDO) Quebec Ice Cider. This has not translated, however, into jump starting the acceleration of growth in both local supply and demand for cider. In addition, bordering jurisdictions near Quebec such as Ontario and Vermont have invested quite heavily in cider making know-how and industry development, and now provide their own supply of ice cider wines as part of a well-diversified product portfolio.

As the trend shows, there is quite a substantial amount of work to be conducted on the strategic management of both sides of the supply and demand equation, and key decisions are looming to revitalize the cider making business ecosystem in Quebec. One of the fundamental economic questions these stylized facts are prompting is: What are the key economic drivers and levers the Quebec cider producers can activate and pull in order to stimulate cider growth production and consumption? As part of the answer to this question it is also important to understand why these drivers and levers are the ones to activate and pull. Thus, the objective of this study is to identify the set of initiatives to be undertaken by the members of the Artisan Cider Producers of Quebec (ACPQ), which includes roughly 45 members, and is now engaging in a process which aims to revitalize their industry.

This paper reports on the results of a group concept mapping (GCM) study, a multivariate mixed methods-based approach (qualitative and quantitative), often used to identify and prioritize concrete decision-making elements within complex systems (Kane & Trochim, 2007). The GCM is a bottom-up facilitated process by which a group of participants engages in sensemaking activities in order to generate a shared conceptual framework representation (Weick et al., 2005; Choo, 2006). The relevance and value of these types of approaches to move from individually aggregated conclusions to collective system-based perspectives are now strongly emerging and being reported in organizational and strategic management literatures in general as managerial cognitions (see Stigliani & Ravasi, 2012; Tarakci et al., 2013), and the GCM, in particular, has found applications in program evaluation, health care, IT management, entrepreneurship, and operations management to name but a few areas specifically (Rosas & Kane, 2012; Cloutier & Spooner, 2016; Cloutier et al., 2016).

The GCM methodological framework as applied in this study comprises five steps. First, a facilitated group discussion was held with the members of the board of the ACPQ. The participants were asked to provide ideas to complete a sentence describing strategic initiatives to be undertaken by the ACPQ over the next five years. Prior to and in preparation for the group discussion, 19 in-depth semi-directed interviews had been conducted with cider makers, and other members of that business ecosystem, over the weeks preceding the group discussion. Second, using an iterative process amongst the researchers, the collected ideas were structured into a final list of 48 statements of strategic initiatives. As part of the structuring process, a larger group of 17 participants were asked individually, using a set of specific instructions, to sort the statement into piles of themes based on a logic that made sense to them. The participants were also asked to rate each statement using a five-point Likert-type scale for their perceived relative ‘importance’ and ‘feasibility’. Third, a total similarity matrix of the individual participants’ binary sort matrix of the mixed data collected from the piles of sorted statements was used to estimate the (x, y) coordinates of the statements on the concept map using multidimensional scaling analysis (MDS). The (x, y) coordinates of each statement obtained from the MDS results were then treated with the agglomerative hierarchical cluster analysis using the Ward algorithm (Everitt et al., 2011). Fourth, the results from the cluster analysis were presented to the board of the ACPQ and a second facilitated group discussion took place to identify the number of clusters to be retained on the map. This discussion also included the determination of the name for each cluster of strategic statements on the map. At the end of the process, the board members had settled on the map that included seven (7) clusters over which were distributed the 48 statements. Fifth, a third group discussion took place with the ACPQ board to examine the consensus measures, and the importance and feasibility ratings for each cluster and of their elements. While the approach used at steps one to five are of the GCM method is mainly based on inductive inference, in GCM, the sensemaking part of it, which consists in interpreting the results, involves a retroductive (or abductive) inference process which roughly consists in generalizing the results based on available theoretical notions (see Mantere and Ketokivi (2013), and Taylor-Powell and Renner (2003)) on the abductive inference process and associated epistemological underpinnings).
One indicator of internal statistical reliability and validity in GCM is the stress value generated by the MDS results. The stress value obtained is a low 0.25, which is an excellent score; as the range for stress values found in GCM pooled studies report coefficients ranging on average in between 0.26 – 0.28, with a confidence interval of 95% percent (Roses & Kane, 2012). The resulting concept map can be interpreted using basic supply (production-industry level) and demand (product-market level) notions, and well as some institutional economics notions. There are three demand-oriented clusters that were identified on the map: 1) Communications with Consumers, 2) Product Marketing, and 3) Relations with the SAQ (Société des alcools du Québec, Quebec’s Liquor Board, a provincial-run monopoly which controls the sales of alcoholic beverages). The remainder four of the seven clusters on the concept map are supply-oriented: 4) An all inclusive ACPQ, 5) Production Regulations and Institutions, 6) Industry Development Financing, and 7) Quality and Certification.

Using the Anchoring – Bridging Index (ABI) obtained from the MDS analysis, the results indicate that there is a region of meaning on the map where there is a stronger consensus amongst participants to address in priority strategic initiatives associated with Communications with Consumers, as well as the Production Regulations and Institutions. Both of these are clearly aimed at simultaneously unlocking demand and supply obstacles to industry growth. Nonetheless, the scale ratings also indicate statistical differences between the perceived importance and feasibility for these two clusters of strategic initiatives. This means, that although rated as top important priorities, the participants also rated as relatively low the relative perceived feasibility of the initiatives they allocated to these clusters. On that aspect of the results alone, in light of the evolution of the cider industry over the past 25 years in Quebec, the results of the GCM and of the shared conceptual framework representation provide even more startling external validity than what one could expect when checked against the supply and demand trends exhibited in the stylized facts. The second region of meaning include the demand-oriented clusters: Communications with Consumers, and Product Marketing. Both of these clusters also reveal statistical differences between the importance and feasibility ratings. Finally, the third region of meaning comprises supply-oriented clusters: All Inclusive ACPQ, Industry Development Financing, and Quality and Certification. These are production bolstering oriented, but their relative importance scales are lower than the clusters in the other two regions of meaning, and so are their relative feasibility scales. The statistical significance was found between the two scales for the All Inclusive ACPQ and Industry Development Financing clusters only.

The paper concludes with a detailed set of strategic recommendations for the industry. These seek to address governance issues as they relate to the structuring of institutions that govern the industry, as well as a discussion on economic policy implications.

Bibliography


