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Utilizing the theory of reasoned action in understanding students’ choice in selecting accounting as major

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ABSTRACT
Many researchers have endeavoured to explore the factors that influence the choice of students to major in accounting. To this end, and by using the theory of reasoned action (TRA), this study contributes to the accounting education literature by providing empirical evidence on the relationship between selected intrinsic and extrinsic factors and the choice of students to major in accounting in a fast-developing country, Qatar. Using mixed methods for data collection and analysis; a questionnaire survey along with semi-structured interviews; the findings of the current study confirm the propositions of the TRA that student’s decision to major in accounting is shaped by attitudinal factors (personal interests, perception of accounting education including introductory course, and the perception of job prospects), as well as subjective norms factors (influence of instructor and the social influence from family and peers).

Introduction and background
Over the recent past decades, considerable focus on the literature of accounting education has been geared towards investigating the factors that may influence students in selecting the accounting subject as their major in their degree (Jackling et al., 2012; Sugahara et al., 2008; Tang & Seng, 2016). Building up on previous studies, the main aim of this research paper is to investigate if there is a meaningful relationship between the significant factors (as identified in the literature) and students’ choice of majoring in accounting.

It should be emphasized, however, that the majority of relevant previous research that sought to predict the students’ choice of major used various statistical methods, which were limited to dealing only with measured variables. Nevertheless, this paper continues the line of studies by Cohen and Hanno (1993), Allen (2004), Tan and Laswad (2006, 2009) and Djatej et al. (2015) in exploring the factors that influence students’ intention to major in accounting using a general theoretical model to predict behavioural intention based on attitudinal and normative beliefs. Built upon a well-developed and widely applied career choice theory, Fishbein and Ajzen’s (1975) Theory of Reasoned Action (TRA), this research investigates the intrinsic and extrinsic factors that influence students’ intention to major in accounting. In particular, this study examines the relationship between some
selected key intrinsic and extrinsic factors and the choice of students to major in accounting in a rapidly developing country, Qatar.

This study contributes to the accounting education literature by extending the application of the TRA to predict and explain student’s choice of accounting major. It also contributes to the literature by addressing the research problem in an interesting context, i.e. Qatar, which is one of the fastest growing economies that has one of the best education systems in the world in terms of quality. The rapid growth of Qatar’s economy over recent decades has created a situation in which the demand for skilled labour far exceeded the supply of qualified Qatari nationals, hence the increased need for more qualified accountants. Moreover, the study also used mixed methods by integrating quantitative and qualitative data collection and analysis to produce more complete knowledge necessary to inform theory and practice.

According to Paolillo and Estes (1982), knowledge of the possible factors that influence the course major decision of students is essential in developing appropriate strategies to inspire business students to major in accounting. It is on this basis that a number of studies have assessed the factors that influence the course major decisions and career choice of accounting students in different settings (ACCA, 2012; Andon et al., 2010; Bui & Porter, 2010; Mass et al., 2013; Porter & Woolley, 2014).

A review of previous research studies reveal that the student’s decision is inspired by some identified factors; including availability of employment, earning potential, years of education required, and aptitude for the subject being the most important factors (Dalcı et al., 2013; Jackling & Keneley, 2009). While prior studies were effective in identifying influential factors, they were largely inconclusive about whether intrinsic factors or extrinsic factors are dominant in accounting career choice.

Moreover, the majority of the prior research relied on various statistical methods to predict students’ choice of major with no theoretical framework in place (Cohen & Hanno, 1993; Djatej et al., 2015; Law, 2010). Though prior research has conducted similar analysis using ad hoc surveys to elicit opinions (Ahmed et al., 1997; Felton et al., 1995; Gul et al., 1989; Jackling, 2002; Jackling & Calero, 2006), it has been difficult to generalize from these studies because no theoretical framework was based (Felton et al., 1995). In particular, the phenomenon of students’ major selection and the factors affecting it is not a purely positive phenomenon, and it is argued, that by utilizing a formal theoretical framework, valid conclusions can be drawn accordingly. Moreover, the research on the career choice of accounting students through a formal model has remained a neglected area in the literature in the Gulf region (Komori, 2008). The authors also argue that by combining mixed research methods; quantitative and qualitative; provide a broader, and often complimentary, view of the research issue. Two research methods are used in this paper; a survey research based on a questionnaire and a second survey research based on semi-structured interviews.

Research objective and contribution

The main aim of this research paper is to utilize a formal model that is built upon a well-developed and widely applied career choice theory, Fishbein and Ajzen’s (1975) Theory of Reasoned Action (TRA), to investigate the intrinsic and extrinsic factors that may influence students’ intentions to major in accounting. The use of a formal model will
help to identify the existence of a theoretical relationship between the underlying constructs and the behaviour examined (Allen, 2004; Cohen & Hanno, 1993; Djatej et al., 2015; Law, 2010; Tan & Laswad, 2006, 2009). Using the TRA in this research contributes to developing a better understanding of the factors that influence students to major in accounting. The study also used mixed methods by integrating quantitative and qualitative data collection and analysis to utilize the strengths of each, while overcoming their unique deficiencies. Triangulation of methods produces more complete knowledge necessary to inform theory and practice, increases confidence in research data, reveals unique findings, and provides a clearer understanding of the problem.

Moreover, this study contributes to the accounting education literature by addressing the research problem in an interesting context, i.e. Qatar, which is the richest country on the planet as per its capita GDP, according to the International Monetary Fund (IMF, 2018). Despite the fact that Qatar is one of the fastest growing economies by having the world’s third largest proven natural gas reserve and is the second-largest exporter of natural gas, still very limited number of studies do explore its education system, and as such, this study tries to fill such a gap. Qatar is an interesting research context for several reasons including internationalization of education, transnational education in emerging countries, regional competition and globalization (Khodr, 2011). Endorsement of quality education was also addressed in the national strategy outlined in Qatar’s National Vision 2030, as a part of human capital development and pillar of knowledge economy. The outstanding achievements attained by Qatar in regards to education is reflected by its ranking in the Global Competitiveness Report 2017-18, as it came fifth globally and first in the region in terms of the quality of education.

Furthermore, Qatar cannot be typically classified as a developing country due to its abundant financial resources, and its unique socio-political system, especially when you compare it to other countries in the MENA region (Khodr, 2011). The rapid growth of Qatar’s economy over recent decades has created a situation in which the demand for skilled labour far exceeded the supply of qualified Qatari nationals, hence the increased need for more qualified accountants. These unique characteristics may make the findings of previous studies in the region not applicable to this context. The study also addresses the issue of supply and demand in the accountancy profession in Qatar. While the country reportedly needs more than 9,000 accountants since 2014, the number of accountants graduating annually is resting around 500 (Gulf Times, 2018). The robust economic development in Qatar has to be seen in the context of the overall economic growth trend in the whole Gulf region. The location of the Gulf States makes them a gateway to new emerging markets such as India, Africa and the Middle East. This economic boom has led to specific requirements for highly skilled, qualified business leaders, including professional accountants, who will sustain the economic upturn and develop a new economic model in the Gulf countries, which is not so dependent on natural resources. The Middle Eastern boom cannot be sustained if there is insufficient managerial potential.

The paper is organized as follows; the following section presents the literature review and presents the theoretical framework and the development of the research hypotheses. The following section outlines the research methods including sampling and data collection process. This is followed by the presentation of results and discussion of the findings.
Theoretical framework and development of research hypotheses

There is a wide range of literature addressing theories to explore academic and career choice, including the Theory of Reasoned Action (TRA) as proposed by Fishbein and Ajzen (1975), which is a well-developed and widely applied behavioural model focused on personal interest and social influence. The TRA was developed as an improvement on the Information Integration theory (Ajzen & Fishbein, 1980) by incorporating two major changes. First, TRA adds another key factor to the persuasion process; behavioural intention. Instead of attempting to predict attitudes, TRA is principally concerned with behaviour. This theory, however, also acknowledges that there are certain circumstances (or factors) that restrict the effect of attitude on behaviour. The second change, TRA uses two factors; attitudes and norms to predict behavioural intentions. That is, whenever our attitudes direct us toward a certain action, but the pertinent norms suggest we do something else, both elements influence our behavioural intention. TRA predicts that there are two elements responsible for causing behavioural intent: our attitudes and our subjective norms.

Referring to Figure 1, the chief purpose of the TRA is to comprehend an individual’s voluntary behaviour by examining the fundamental basic motivation to carry out an action. In addition, the normative component (i.e. social norms surrounding the behaviour) also contributes to whether or not the individual will actually perform the behaviour. The theory states that the intention to carry out a certain action, but the pertinent norms suggest we do something else, both elements influence our behavioural intention. TRA predicts that there are two elements responsible for causing behavioural intent: our attitudes and our subjective norms.

Based on the previous literature, it has been argued that the only substantial discriminating factors that influence students in choosing accounting discipline as their degree major include the perception of accounting courses, perceptions of the accounting profession, important referents, and personal skills (Ahinful et al., 2012). Other possible factors, like ‘impression of introductory accounting courses’ and ‘gender’ are identified as weak predictors, which imply that they are hardly linked to the choice of the degree major (Jones & Wright, 2010). Jackling and Keneley (2009) argue that the choice of business students to major in accounting at a later stage of their academic programme was influenced by two elements related to ‘behavioural beliefs’ and one factor linked to ‘normative beliefs’ in the TRA model. Also using the TRA, Felton et al. (1995) examined the students’ decision to pursue a career as a Chartered Accountant, and their findings

![Figure 1. Theory of reasoned action (TRA). Adapted from Fishbein and Ajzen (1975).](image-url)
backed the TRA model’s focus on attitudes and beliefs and recommended the need for more research using the TRA model.

While prior studies were effective in identifying influential factors, they were largely inconclusive about whether intrinsic factors or extrinsic factors are dominant in accounting career choice. Applying the TRA model, an individual’s intention to pursue an accounting major is determined by the following two components: (1) intrinsic factors including: personal interests and skills, perceptions of the job prospects, perceptions of accounting education, and perceptions of introductory course; (2) extrinsic factors including: influence of family and peers, and finally the effect of media and publicity. In addition, this model controls for age, gender, qualifications, nationality and language of the study. Accordingly, a research model for this study is illustrated in Figure 2.

**Personal interests and skills (H1)**

Kumar (2017) found personal interests and skills as one of the factors that influence a student’s selection of a degree programme major. Students who select accounting as major have a sturdy numerical background, as well as weaker writing skills, compared to those who choose the non-accounting majors. This suggests that students who fall into this category seem to recognize that they have what it takes to pursue the accounting profession compared to students who choose non-accounting majors. Ali and Tinggi (2013) also found that previous academic achievement is an important predictor of a student’s choice of major.

However, Wally-Dima (2013) argues that the majority of students make the decision to choose accounting as their major after completing high school, prior to entering the university. Conversely, Rosacker et al. (2013) found that final year tertiary students have a

![Figure 2. Research model.](image-url)
better comprehension of what accounting involves and hardly have a negative perception of an accountant.

In view of the inconclusive findings above, the association between the students’ choice of a major and their personal interests and skills warrants further research. It is therefore argued that the students’ personal interests and skills could be an indicator of their major. To facilitate the empirical tests, the first hypothesis is developed below.

H1 Personal interests and skills are significantly associated with a student’s decision to major in accounting.

Perceptions of the job prospects (H2)

Hermanson et al. (1995) concluded that economic factors were the main reason behind the choice of accounting majors. Likewise, Byrne et al. (2012) indicated that students who were aiming to pursue the accounting major regard financial rewards and prestige as more important factors compared to the non-accounting major students, who rank self-fulfilment, work-life balance, and good citizenship higher. Similarly, the findings of Ali and Tinggi (2013) revealed that only employment prospect has a significant influence on the decision by students to choose the accounting major.

To test the possible effect of the perceptions of the accounting profession on the decision of students to choose an accounting major, the following hypothesis is proposed:

H2 Perceptions of job prospects are significantly associated with a student’s decision to major in accounting.

Perceptions of accounting education (H3)

Byrne and Willis (2005) found that students who are studying accounting have less negative views than those not studying the subject. Anis and Hanafi (2015) found the perception of accounting study as the most significant discriminator between the non-accounting and accounting majors. This is possible because students who prefer accounting as their major seem more to take pleasure in resolving practical cases and solving problems compared to students who major in non-accounting areas (Cohen & Hanno, 1993).

Furthermore, Miller and Stone (2009) found that students who choose to major in accounting seem more to perceive the accounting study as entailing an intense workload and usually dealing with numerals compared to students who prefer non-accounting majors. Moreover, the findings of Chen et al. (2008) are in line with the research by Tan and Laswad (2009), which found that the students’ perceptions of accounting as having greater social status is a significant factor in the choice of major.

Based on the above findings, the extent of the perceptions of accounting education as a choice of major can be tested through the following hypothesis:

H3 Perception of accounting education is significantly associated with a student’s decision to major in accounting.

Impressions of the introduction to accounting courses (H4)

Halabi (2009) found that performing well in the introductory accounting course means that students will more likely select accounting as a major. This finding is contrasted to the
indications of Geiger and Ogilby (2000) and Mandilas et al. (2010), which show that the perception among the non-accounting and accounting major students in the introduction to accounting course hardly differ. However, the results of Waples and Mo (2011) show that the students who major in accounting are more probable to perform better in the introductory accounting study. This is perhaps because the attitudes to, and the impressions of, accounting study and the related profession attained from introductory accounting courses, transform over time. Based on the above, the impression given by the introductory accounting courses generally has a strong effect on a student’s decision to choose an accounting major, and consequently, the potential impact can be hypothesized as follows:

H4 The impression given by introductory accounting courses is related to a student’s decision to major in accounting.

**Influence of family and peers (H5)**

While investigating important referents, such as friends and relatives, Mahrous (2011) indicated a strong effect of subjective norms; that is the perceptions of significant people on students’ decision-making. The findings of Anis and Hanafi (2015) are also consistent with those of Tan and Laswad (2006) who indicated that three factors: referents, personal, and control; are key determinants of the students’ intent to their major selection. According to Tan and Laswad (2006), parents appear to have a stronger influence on the students’ intents to major in accounting. Byrne et al. (2012) seem to concur with these findings, as they specifically indicated that the students’ parents and accounting teachers are the only referents who influence the major decisions while relatives, friends, and guest speakers have no influence.

To test the possible effect of the perceptions and impressions of various business fields and the potential impact on the decision of students to choose an accounting major, the following hypothesis is proposed:

H5 Influence of important referents is significantly associated with a students’ decision to major in accounting.

**Media and publicity (H6)**

Previous studies suggest that media, in general, positively influences the choice of a major of study, as students usually search for information about universities, courses and programmes in the media before they choose their major. As Hoag et al. (2017, p. 5) point out; ‘media and communication technologies engulf modern lives, influence one’s perceived view of the world, and mediate personal interactions with individuals and society’. Despite the undeniable reach and pervasiveness of information and entertainment industries, vocational scholars have not fully explored the way media and communication technologies influence students’ choices of college majors or careers. Media Instruments include advertisements on TV/radio/newspaper, internet, education fairs, banners, brochures and offer letters.

Based on the above, to test the possible effect of media and publicity on the decision of students to choose an accounting major, the following hypothesis is proposed:

H6 Media and publicity are significantly associated with a students’ decision to major in accounting.
Research methods and data collection

To validate the data obtained, the research methodology and, consequently, the data collection methods were triangulated. Two research methods were used in this paper respectively; a survey research based on a questionnaire and a second survey research based on semi-structured interviews.

Questionnaire

To examine the choice of accounting major within the framework of the TRA, a structured questionnaire was designed to explore students’ opinions about their preferences for the major course and their motivations to major in accounting. The questionnaire consisted of two parts; the first part covered the factors influencing the choice of accounting as a major as suggested in the literature (Ahmed et al., 1997; Ali & Tinggi, 2013; Allen, 2004; Anis & Hanafi, 2015; Auyeung & Sands, 1997; Tang & Seng, 2016). These factors included personal interests and skills, job prospects, accounting education, accounting introductory course, family and peers, and media and publicity. The second part covered the demographic data, including gender, age, qualification, nationality, and language. Students were asked to demonstrate their agreement with the statements on a 5-point Likert scale, where 1 represents ‘strongly disagree’ and 5 represents ‘strongly agree’. In addition, students were asked whether they chose accounting as their major or they selected another discipline instead, i.e. finance, management, marketing, etc.

Based on the final version of the instrument, the data were gathered from a sample of undergraduate students at one of the Qatari universities. On average, the enrollment is about 4000 students every year in both Arabic and English tracks. The majority of students are female and the Arabic track is the dominant track. The questionnaire was printed in two versions; Arabic and English, and was manually distributed to a convenient sample of 500 students from accounting and non-accounting classes to complete it during the academic year of 2016-2017. We received 450 questionnaires from students with a response rate of 90%. The high percentage of response rate can be attributed to the drop and collect method that was used in data collection. In the data analysis, 12 questionnaires were excluded because of incomplete data. Consequently, only 438 questionnaires remained. The descriptive statistics of the sample is presented in Table 1.

The sample size was decided in the light of the number of predictors (34) in the questionnaire, which requires a sample between 170 (five observations each) and 680 (twenty observations each) observations (Hair et al., 2010). In addition, the size of population (4000 students), confidence level (95%) and margin of error (5%) have also been considered in identifying a target sample size of 351 observations at minimum. In addition, a holdout sample of 150 students was used to validate results that have been obtained from the analysis sample, which has increased the total sample size to 588 observations.

Semi-structured interviews

In an effort to enrich the data collected via the survey instrument, and to better understand the factors influencing accounting major choice, the authors conducted semi-structured interviews.
interviews with 28 students. Piloting of the interview script with a convenience sample of students, who were not involved with the study, enabled subsequent refinement of the questions. The authors used the process for thematic analysis outlined by Braun and Clarke (2006), whereby the authors familiarize themselves with the interview transcripts, and generated initial codes for overarching themes and subthemes. This process was driven by the data, and thus inductive in nature. The authors iteratively compared and discussed their analyses and coding, and came to consensus on an updated coding framework. After coding all of the data for interviews, the coded extracts were reviewed for coherency within the themes, and further refinements were made to the themes and subthemes. Full descriptive statistics of the interviews sample is presented in Table 2.

The interview schedule was developed based on relevant concepts selected from the literature and previous empirical studies (Ahmed et al., 1997; Ali & Tinggi, 2013; Allen, 2004; Auyeung & Sands, 1997; Niswonger, 1956; Tang & Seng, 2016). In addition, the findings from the survey study helped in the design of the interview schedule. The use of semi-structured interviews allowed us to delve further into the students’ perceptions in regards to the factors influencing major choice. A standard script guided the interviews.

### Table 1. Description of the questionnaire sample.

<table>
<thead>
<tr>
<th>Factors</th>
<th>Frequency</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Major</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Accounting</td>
<td>279</td>
<td>%64</td>
</tr>
<tr>
<td>Non-accounting</td>
<td>159</td>
<td>%36</td>
</tr>
<tr>
<td><strong>Gender</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Female</td>
<td>338</td>
<td>%77</td>
</tr>
<tr>
<td>Male</td>
<td>100</td>
<td>%23</td>
</tr>
<tr>
<td><strong>Language of study</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Arabic</td>
<td>290</td>
<td>66%</td>
</tr>
<tr>
<td>English</td>
<td>148</td>
<td>34%</td>
</tr>
<tr>
<td><strong>Educational background</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Qatar Senior School Certificate</td>
<td>372</td>
<td>%85</td>
</tr>
<tr>
<td>GCE (British)</td>
<td>26</td>
<td>%6</td>
</tr>
<tr>
<td>American Diploma</td>
<td>26</td>
<td>%6</td>
</tr>
<tr>
<td>Other</td>
<td>14</td>
<td>%3</td>
</tr>
<tr>
<td><strong>Nationality</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Qatari</td>
<td>296</td>
<td>%68</td>
</tr>
<tr>
<td>Non-Qatari</td>
<td>138</td>
<td>%32</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>438</td>
<td>100%</td>
</tr>
</tbody>
</table>

### Table 2. Description of the interviews sample.

<table>
<thead>
<tr>
<th>Factors</th>
<th>Frequency</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Major</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Accounting</td>
<td>16</td>
<td>%57</td>
</tr>
<tr>
<td>Non-accounting</td>
<td>12</td>
<td>%43</td>
</tr>
<tr>
<td><strong>Gender</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Female</td>
<td>20</td>
<td>71%</td>
</tr>
<tr>
<td>Male</td>
<td>8</td>
<td>29%</td>
</tr>
<tr>
<td><strong>Language of study</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Arabic</td>
<td>18</td>
<td>64%</td>
</tr>
<tr>
<td>English</td>
<td>10</td>
<td>36%</td>
</tr>
<tr>
<td><strong>Nationality</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Qatari</td>
<td>19</td>
<td>68%</td>
</tr>
<tr>
<td>Non-Qatari</td>
<td>9</td>
<td>32%</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>28</td>
<td>100%</td>
</tr>
</tbody>
</table>
Each interview lasted around 30 minutes and was attended by at least one of the authors, who took notes of what was said. Students were interviewed separately and could elaborate on any issue they chose.

**Data results and discussion**

This study used Exploratory Factor Analysis (EFA) to assess the validity of the used constructs in the survey. EFA was conducted using the principal component method and the Varimax orthogonal rotation method (Hair et al., 2010). Communalities (≥ 0.5), Eigen values (≥1) and variance extracted (≥ 0.5) are used to identify the number of factors to be extracted (Hair et al., 2010). Variables exhibiting low factor loadings < 0.40 and/or high cross-loadings > 0.40 and/or low communalities < 0.50 were removed (Hair et al., 2010).

The results of EFA as presented in Table 3 indicate that only 5 factors are extracted after combining two constructs (accounting education and accounting introductory course) in one factor yielding a high cumulative percentage of variance equal to 72.7%. The proposed factors namely are personal interests and skills, job prospect, media and publicity, accounting education and introductory course, and family and peers. Also, the reliability of these factors were tested using Cronbach’s α, which were equal to or above 0.70 for all factors.

The scores of the proposed factors were used to test the normality and collinearity. Skewness and kurtosis tests were used in this study to test the normality of data. Skewness and kurtosis statistics, as presented in Table 4, fall within the acceptable range ±2.58 (Hair et al., 2010) for all proposed factors, which means that data related to the factors influencing the choice of a major in general are normally distributed.

Multicollinearity was assessed using the Variance Inflation Factor (VIF) of independent variables. Table 4 indicates that the VIF for all factors ranges between 1.15 and 1.52, which is less than the cut-off threshold of 10 suggesting that there is no multicollinearity issue in this study (Hair et al., 2010).

<table>
<thead>
<tr>
<th>Table 3. Exploratory factor analysis.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Factors</td>
</tr>
<tr>
<td>-------------------------------------</td>
</tr>
<tr>
<td>Personal Interest_1</td>
</tr>
<tr>
<td>Personal Interest_2</td>
</tr>
<tr>
<td>Personal Interest_3</td>
</tr>
<tr>
<td>Job Prospects_1</td>
</tr>
<tr>
<td>Job Prospects_2</td>
</tr>
<tr>
<td>Job Prospects_3</td>
</tr>
<tr>
<td>Media &amp; Publicity_1</td>
</tr>
<tr>
<td>Media &amp; Publicity_2</td>
</tr>
<tr>
<td>Media &amp; Publicity_3</td>
</tr>
<tr>
<td>Acc. Intro Course_1</td>
</tr>
<tr>
<td>Acc. Education_1</td>
</tr>
<tr>
<td>Acc. Education_2</td>
</tr>
<tr>
<td>Family &amp; Peers_1</td>
</tr>
<tr>
<td>Family &amp; Peers_2</td>
</tr>
<tr>
<td>Cronbach’s α</td>
</tr>
<tr>
<td>Eigen value</td>
</tr>
<tr>
<td>% of variance</td>
</tr>
<tr>
<td>Cumulative % of variance</td>
</tr>
</tbody>
</table>
In order to identify the factors affecting the students’ major choice, a discriminant analysis was used in this study, as well as semi-structured interviews. Discriminant analysis builds a predictive model for group membership. The model is composed of a discriminant function based on linear combinations of predictor variables that provide the best discrimination between groups. In this analysis, we used the 5 factors that have been suggested by EFA as predictor variables. In addition, we have controlled for 5 more factors that may affect students’ choice of their major including gender, age, qualification, nationality and language of the study. Table 5 provides a summary of the overall model fit. The Chi-square statistic tests the hypothesis that the means of the functions listed are equal across groups. The high significant value (p-value > 0.001) indicates that the discriminant function does better than chance at separating the groups.

The relatively large eigenvalue (1.283) indicates that most of the variance in the dependent variable is explained by that function. The canonical correlation (0.750) measures the association between the discriminant function and the dependent variable. The square of canonical correlation coefficient (0.562) is the percentage of variance explained in the dependent variable. Wilks’ lambda (0.438) complements the squared canonical correlation and represents the percentage of unexplained variance in the dependent variable.

To identify the most important factors in deciding students’ major, the discriminant function was examined as displayed in Table 6. The standardized discriminant coefficients with large absolute values correspond to variables with greater discriminating ability. The coefficient of personal interests and skills was the highest among the predictors, followed by accounting education and introductory course in the second place, and then Job prospects, family and peers, age, media and publicity in order. According to the univariate F ratio, all the six factors are significantly different between the two groups of students (accounting and non-accounting major), with different levels of discrimination power.

### Table 4. Normality and collinearity diagnostics.

<table>
<thead>
<tr>
<th>Variables</th>
<th>Mean</th>
<th>Standard deviation</th>
<th>Skewness</th>
<th>Kurtosis</th>
<th>Collinearity Statistics</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td>Statistic</td>
<td>Std. error</td>
<td></td>
</tr>
<tr>
<td>Personal interest</td>
<td>3.0989</td>
<td>1.22183</td>
<td>-.463</td>
<td>.117</td>
<td>.673 1.485</td>
</tr>
<tr>
<td>Job prospects</td>
<td>3.9148</td>
<td>.75221</td>
<td>-.445</td>
<td>.117</td>
<td>.744 1.345</td>
</tr>
<tr>
<td>Media &amp; publicity</td>
<td>2.7565</td>
<td>.82613</td>
<td>-.293</td>
<td>.117</td>
<td>.864 1.157</td>
</tr>
<tr>
<td>Acc. education &amp; intro. course</td>
<td>3.6218</td>
<td>.91587</td>
<td>-.478</td>
<td>.117</td>
<td>.656 1.525</td>
</tr>
<tr>
<td>Family &amp; peers</td>
<td>3.2409</td>
<td>.92677</td>
<td>-.268</td>
<td>.117</td>
<td>.799 1.252</td>
</tr>
</tbody>
</table>

### Table 5. Summary of canonical discriminant functions.

<table>
<thead>
<tr>
<th>Function</th>
<th>Eigen value</th>
<th>% of variance</th>
<th>Cumulative %</th>
<th>Canonical correlation</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>1.283</td>
<td>100.0</td>
<td>100.0</td>
<td>.750</td>
</tr>
<tr>
<td>Wilks’ lambda Test of function(s)</td>
<td>Wilks’ lambda</td>
<td>Chi-square</td>
<td>Degrees of freedom</td>
<td>Sig.</td>
</tr>
<tr>
<td>1</td>
<td>.438</td>
<td>355.766</td>
<td>10</td>
<td>.000*</td>
</tr>
</tbody>
</table>

*p-value > 0.001.
Other factors, such as gender, qualification, nationality and language of study, were not significantly different in the two groups of students.

However, the structure matrix shows the correlations of each variable with each discriminant function. Discriminant loadings less than ±0.30 are considered weak and cannot be considered important discriminant factors. Therefore, both of age and media and publicity were removed from the list of important discriminating factors. After ranking factors according to discriminating power, discriminating loadings and univariate F values, the most important factors in predicting students’ choice of a major are personal interests and skills, accounting education and introductory course, job prospects, and family and peers in order. Thus, all the proposed factors significantly influence students’ decision to major in accounting except for media and publicity because of its weak discriminant power.

To validate results and to assess the predictive accuracy of the discriminant function, classification matrices were constructed. The percentage of correctly classified cases (hit ratio), as calculated using Fisher’s linear discriminant function, measures how well the discriminant function works for each group.

This study created classification matrices for the original and the holdout samples. The holdout sample was chosen by distributing the same questionnaire to a new group of students who did not participate in the original survey collecting 150 questionnaires. This has increased the total sample size up to 588. The holdout sample consists of 96 students majored in accounting and 54 students from non-accounting major maintaining almost the same relative size of the categories in the original sample.

Table 7 presents the classification results of the discriminant function for the original and the holdout samples results respectively. The hit ratios were very close to each other, and have slightly dropped from 85.6% in the original sample to 84.7% in the holdout sample. The hit ratio should be at least 25% higher than the percentage of correctly classified cases by chance, which was calculated using the maximum chance criterion (the percentage of the largest group in the holdout sample 96/150 = 0.64). Comparing the hit ratio (84.7%) with the maximum chance criterion (0.64) indicates that it is significantly larger (by more than 25%). This comparison indicates that classification accuracy is greater than can be expected by chance and the discriminant function is valid for prediction with high accuracy.

### Table 6. Summary of interpretive measures of the discriminators of major choice.

<table>
<thead>
<tr>
<th>Independent variables</th>
<th>Standardized discriminant coefficient</th>
<th>Structure mix (Discriminant loadings)</th>
<th>Univariate independent F ratio</th>
</tr>
</thead>
<tbody>
<tr>
<td>Personal interests &amp; skills</td>
<td>.766</td>
<td>.883 1 .500</td>
<td>435.716 .000³</td>
</tr>
<tr>
<td>Acc. education &amp; intro. course</td>
<td>.318</td>
<td>.581 2 .698</td>
<td>188.511 .000³</td>
</tr>
<tr>
<td>Job prospects</td>
<td>.181</td>
<td>.401 3 .829</td>
<td>89.961 .000³</td>
</tr>
<tr>
<td>Family &amp; peers</td>
<td>.164</td>
<td>.279 4 .909</td>
<td>43.618 .000³</td>
</tr>
<tr>
<td>Age</td>
<td>.112</td>
<td>.178 – .961</td>
<td>17.674 .000³</td>
</tr>
<tr>
<td>Media &amp; publicity</td>
<td>−.018</td>
<td>.144 – .974</td>
<td>11.571 .001³</td>
</tr>
<tr>
<td>Gender</td>
<td>.033</td>
<td>−.056 – .996</td>
<td>1.766 .185</td>
</tr>
<tr>
<td>Qualification</td>
<td>.038</td>
<td>.043 – .998</td>
<td>1.018 .314</td>
</tr>
<tr>
<td>Nationality</td>
<td>−.054</td>
<td>−.041 – .998</td>
<td>.938 .333</td>
</tr>
<tr>
<td>Language</td>
<td>−.052</td>
<td>−.029 – .999</td>
<td>.471 .493</td>
</tr>
</tbody>
</table>

³Indicates that the F value is significant at the 0.001 level.
Based on the results of the discriminant analysis and the relevant literature review, the semi-structured interview questions were designed to test the relationship between behavioural measures and behavioural intentions to major in accounting.

As previously noted in Table 2, the authors conducted 28 interviews. The majority of participants were females (n = 20, 71%). Of these, 16 (57%) already selected accounting as their major, 18 (64%) were enrolled on the Arabic track, and 19 (68%) were Qatari.

Referring back to Figure 1, the TRA uses two elements, attitudes and norms, to predict behavioural intent. That is, whenever our attitudes lead us to do one thing but the relevant norms suggest we should do something else, both factors influence our behavioural intent. Specifically, reasoned action predicts that behavioural intent is caused by two factors: our attitudes and our subjective norms. Based on this, the analyses of the interviews revealed two main themes including; (i) attitudes and behavioural intention; and (ii) subjective norms that limit the influence of attitude on behaviour.

**Theme 1: attitudes and behavioural intention**

There was great variability in students’ responses in regards to their perceptions of the first accounting courses. The responses either fostered or discouraged a favourable perception of the accounting profession; this therefore increased or lowered the likelihood that these students would select accounting as their major. One student stated: ‘First accounting course had helped me to confirm a prior [personal] interest in accounting and [accordingly] desire to major in the subject’. On the contrary, another student said: ‘I selected a different [Management] major as a result of a negative experience in my first accounting course as it required a certain set of skills which I do not have’. When prompted to elaborate further, the same student mentioned: ‘it [accounting discipline] requires strong numerical background, which is not on top of my [personal] interests’. This result confirms the importance of personal interest and skills in choosing a major, as per the survey analysis, accepting H1.

Almost 80% of the students indicated that they believed that accounting major graduates have more job opportunities than other graduates do and that is reflected in the market demand for such a specialism. In addition, the interviewed students highlighted that accounting graduates have the ability to work in a variety of positions; e.g. professional auditors, internal auditors, financial accountants, and the additional flexibility to work in various kinds of institutions. One student explicitly mentioned: ‘I find it kind of stress-free to find a position in accounting-related careers than to work in other business jobs’. They also indicated that accounting major graduates are usually perceived

<table>
<thead>
<tr>
<th>Major</th>
<th>Non-Acc.</th>
<th>Accounting</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Original&lt;sup&gt;a&lt;/sup&gt; Count</td>
<td>122</td>
<td>37</td>
<td>159</td>
</tr>
<tr>
<td>%</td>
<td>76.7%</td>
<td>23.3%</td>
<td>100%</td>
</tr>
<tr>
<td>Count</td>
<td>26</td>
<td>253</td>
<td>279</td>
</tr>
<tr>
<td>%</td>
<td>9.3%</td>
<td>90.7%</td>
<td>100%</td>
</tr>
<tr>
<td>Holdout sample&lt;sup&gt;b&lt;/sup&gt; Count</td>
<td>42</td>
<td>12</td>
<td>54</td>
</tr>
<tr>
<td>%</td>
<td>77.8%</td>
<td>22.2%</td>
<td>100%</td>
</tr>
<tr>
<td>Count</td>
<td>11</td>
<td>85</td>
<td>96</td>
</tr>
<tr>
<td>%</td>
<td>11.5%</td>
<td>88.5%</td>
<td>100%</td>
</tr>
</tbody>
</table>

<sup>a</sup>85.6% of original grouped cases correctly classified.
<sup>b</sup>84.7% of unselected grouped cases (holdout sample) correctly classified.
to have more distinctive qualifications than business majors, which qualify them for better job opportunities, high advancement potentials and consequently higher future earnings. One student pointed out: ‘As an [accounting] graduate, many professional qualification certificates are there in the market, [such as] the CPA, CMA, CMA, CIA, CISA, which all make accounting an attractive field to major in’. This result is in line with what found in the survey analysis that perception of job prospects significantly affects students’ decision to major in accounting accepting H2.

When asked how they perceive the accounting education, more than half of the students believe that accounting education is unique compared to all other Business majors in the sense that it is easier to get higher marks in accounting courses simply because the questions have clear-cut answers (objective), whereas in other business related courses, such as Management and or Marketing, answers to questions are based on opinions, perceptions, etc. Furthermore, students also indicated that accounting courses require a strong numerical background. Many students stated ‘I chose Accounting as a major because [in class] I feel more confident solving numerical problems and consequent quantitative analysis’. They also indicated that business majors in subjects such as Management and Marketing require a wide range of communication and interpersonal skills, creativity, collaboration and discursive thinking skills. Students who are apprehensive about their writing or communications are usually discouraged from choosing business majors. This result is aligned with the findings of the discriminant analysis that perception of accounting education and introductory course is one of the most important factors in deciding a major accepting H3 and H4.

**Theme 2: subjective norms that limit the influence of attitude on behaviour**

Remarkably, when asked about the most influential factor that may affect their major selection, nearly all the students’ responses indicated that the impact of the accounting instructor is ranked number one. When prompted to elaborate on responses to the question, ‘You said that the most important factor in affecting your major selection is the accounting instructor, but why do you think that?’, one student mentioned: ‘I enjoy the accounting courses more than other business courses due to the inspiring and motivated instructors who really inspire and motivate me accordingly’. Another student summed it up as follows: ‘Initially, I wanted to major in a different Business field, but it all changed because of one [accounting] instructor’. Surprisingly, this factor was not separately addressed in the survey analysis providing that it indirectly affects other factors such as accounting education and introductory course. This result implies that the academic instructors play a pivotal role in influencing students to major in accounting.

Several anecdotal stories were told to illustrate the significant influence of family and peers. As one student puts it: ‘A family member [Father] had an influential impact on me selecting a major in accounting. He [Father] works in the profession and encouraged me to follow his steps’. Another student concluded: ‘Many of my friends [peers] who majored in accounting encouraged me to do likewise. According to them [peers], graduating with an accounting degree opens several market opportunities’. This result confirms the significant influence of family and peers that was found in the survey analysis accepting H5. Further, the interviews did not highlight any importance of media and publicity in affecting students’ decision to major in accounting, in line with the survey analysis. Therefore, H6 is not supported.
Collectively, and in light of the foregoing results of the interviews, it can be argued that the top factors influencing the decision of Qatari students to major in accounting are the influence of the accounting instructors, perceptions of the introductory course & accounting education, job prospects, and the influence of family and peers.

Referring to Figure 3, the interview results are in line with the survey results with the exception of the influence of the accounting instructors as this comes on top of the factors as revealed by the results of the interviews. In addition, the personal interests and skills had lower importance in the interviews compared to the results of the survey. Additionally, the factors revealed from the results of the survey are listed in order in terms of their significance, whereas those revealed from the results of the interviews are stated in the sense that the influence of instructor comes on top while all the remaining factors are of equal importance.

The results of the study can be interpreted in the light of the TRA that suggests that an individual’s intention to pursue an accounting major/career is collectively shaped by his/her attitude (personal interests, perception of accounting education and introductory course, and the perception of job prospects) and subjective norms (influence from instructor and the social influence from family and peers). Notably, the results of this paper reinforce the findings of prior studies with regard to the most significant factors affecting the students’ decision to major in accounting. The paper accordingly emphasizes areas for successfully recruiting students into the accounting major. First, accounting faculty must increase their efforts to reach out to high schools as a means of recruiting prospective accounting students. The authors strongly recommend identifying and targeting key high school feeder programmes. Second, business schools should strive to provide a quality introductory accounting course experience to students. Finally, it is important for accounting faculty to engage more with accounting firms and businesses that hire students for internships and fulltime positions.

Conclusions

The Middle East is booming and the need for professional accountants to deal with the ambitious economic projects in the region will be on the increase over the next years.
Qatar’s vibrant and fast-growing economy will need to boost its sustainable economic model and the role of highly educated, skillful and talented workforce will be of key importance in achieving this goal. With this in mind, it was the aim of this paper to investigate the factors that may influence students in selecting the accounting subject as their major. Although business schools need to recruit qualified students into accounting major, yet they do not have a clear idea about what make students choose this major. Identifying these factors will enable accounting educators to focus on improving and modifying areas of the curriculum that are responsible for turning students away from choosing accounting as an academic major.

The amount of previous studies that discussed the factors affecting student’s decision to major in accounting is an indication of the importance of this issue to business schools. However, the results of previous studies were inconclusive. In an attempt to answer this question and to explain the mixed results, this study developed a comprehensive model, from the TRA prospective, to interpret and predict student’s choice of majoring in accounting. The study classified factors affecting student’s intention to pursue an accounting major/career into factors related to attitude and factors related to subjective norms. Using mixed methods for data collection and analysis, the findings of the current study confirm the propositions of the TRA that student’s decision to major in accounting is shaped by attitudinal factors (personal interests, perception of accounting education including introductory course, and the perception of job prospects), as well as subjective norms factors (influence of instructor and the social influence from family and peers).

Furthermore, the findings indicate that there is an overlap between the perception of accounting education and the impression to the accounting introduction course, as both factors have been combined into one factor in the quantitative analysis. The analysis of interviews also highlighted the importance of influence that accounting instructors have on students in choosing their majors, as they rated this factor on the top of the influencing factors on their decisions. This signifies the human side of teaching and the importance of interaction between instructors and students, which may contribute to changing the future careers of students. It is not surprising that social influence and pressure comes mainly from family and peers, not from media and publicity in the context of Qatar. Despite its rapid development and modernization, Qatar is still a tribal society at its core. The culture of Qatar is strongly influenced by traditional Bedouin culture, which gives high respect and esteem to the family elders. The family in Qatar refers to a group larger than the domestic unit, and the Qatari people still have strong connections with their families. In the meantime, the influence of media and publicity such as social media could be less important in a conservative society such as Qatar. Despite of the growing use of technology and smart phones between Qatari, a great part of the users, especially women, have privacy concerns and believes that social media is helping to spread rumours and false information.

However, the study is subject to a number of limitations, which lay a foundation for future research. First, in regards to the TRA, and despite its wide scope, the theory still has its limitations and requires constant refinement and revision. Eagly and Chaiken (1993) concluded that the TRA does not take into account that the certain conditions enabling the performance of a behaviour are not always available to individuals. Since the TRA focuses on behaviours decisively adopted by individuals, the theory is limited
in terms of predicting behaviours that require access to certain opportunities, skills, conditions and/or resources. In addition, certain intentions do not necessarily play a role in the connection between behaviours and attitudes.

Furthermore, the findings should be treated with some caution since the study was concerned with the perceptions of only one group of subjects, namely students, and from only one university. This can limit the ability to generalize findings to other groups (for instance instructors and professionals) and other contexts. It is also recommended that future research should attempt to use samples from different types of universities; public, private and internationally affiliated universities in Qatar.

Given that only few studies have been conducted on the topic under investigation in the Middle East, it would be interesting to look at this paper as a basis for other researchers who might be interested in further investigating the issue under study in Qatar and other countries in the Middle East.

Despite the limitations highlighted above, this study remains unique in the sense that it is the first empirical paper, which explores Qatari students’ perceptions of the factors influencing their decision to major in accounting drawing on the premise of the TRA and using mixed methods.

Acknowledgements

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Disclosure statement

No potential conflict of interest was reported by the author(s).

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## Appendix

### Questionnaire

**Factors influencing the students’ choice of accounting as a major**

For the following statements, please circle the appropriate number that indicates your level of agreement

**Rating scale. 1 = Strongly disagree, 2 = Disagree, 3 = Neutral, 4 = Agree 5 = Strongly Agree**

1. **Personal Interests and Skills:** (Ali & Tinggi, 2013; Anis & Hanafi, 2015)
2. I like calculation-based subjects rather than memorization-based for subjects.
3. It is my ambition to become an accountant/auditor.
4. I have strong numerical background.
5. I had planned to enter accountancy program before entering the university.
6. I do not like courses that require writing a lot.
7. **Job Prospect:** (Ali & Tinggi, 2013)
8. I expect my degree is marketable after I graduate from this university.
9. I expect to earn high income after I graduate in Bachelor of Accountancy program.
10. I believe accounting field is in demand these days.
11. I will not be exposed to danger (physical) if I work in accounting field.
12. I would like to create my own business, and majoring in accounting may help me in this regard.
13. **Accounting Education:** (Anis & Hanafi, 2015)
14. I found accounting courses more interesting than non-accounting courses.
15. there are more practical cases in accounting courses than in non-accounting courses.
16. level of difficulty of accounting courses are higher than non-accounting courses.
17. I prefer courses that have practical cases than courses that do not have practical cases.
18. I always get higher grades in accounting courses than in non-accounting courses.
19. **Accounting Introductory Course:** (Anis & Hanafi, 2015)
20. I liked the teaching style of my accounting professors and teaching assistants.
21. The instructors of the first accounting course I took stimulated me to study accounting.
22. The first accounting courses I took made me like accounting.
23. **Family Members and Peers:** (Ali & Tinggi, 2013)
24. My family always involves and advices me in selecting my academic subjects or major.
25. My family background and access to education influence me in selecting my major.
(26) My family persuades me to major in accountancy program.
(27) Major in accountancy is encouraged and recommended by my colleagues.
(28) My friends also selected their degree in accounting or studied at the same university.
(29) **Media and Publicity:** (Ali & Tinggi, 2013)
(30) I always get offer letters from various institutions which guide me to further my studies.
(31) The education fairs drive me to choose major in accounting.
(32) The information and offers from the university’s website spark my interest.
(33) The banners in the college about major courses motivate me in selecting accounting as a major.
(34) The Academic Advisory Office guides me to choose major in accounting.
(35) The advertisements on television/radio/newspaper influence me to choose accounting as my major.
(36) **Accepting Offer of Accountancy Program:** (Ali & Tinggi, 2013)
(37) I am satisfied with my choice of accounting course as a major in the university.
(38) I recommend the accounting program to my family members, colleagues and others.
(39) I will continue to enhance my knowledge in accounting-related subjects.
(40) I will enter accounting field after I graduate in accounting major.

**Interview guide**

(1) Why did you choose accounting as a major?
(2) Rank the following factors according to their importance in choosing your major:
   - a. Personal interest and past achievement in accounting and math.
   - b. Family members, peers and media.
   - c. Job interest.
   - d. Accounting education and Introduction to accounting course
   - e. Other (please elaborate).
(3) In choosing your major, have you experienced any discrepancies between your personal interest and opinions from your family members and peers? If yes, how did you resolve this issue?
(4) Did you plan to major in accounting e.g. before joining the university? If no, why did you change your direction or decision?
(5) How do you perceive the accounting profession compared to other professions?
(6) What are the skills and competencies that student should possess to be a good accountant in future? Do you think you have these skills and competencies?