The Impact of Saudi Women Driving on Employment Rates and Economic Growth

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Abstract: The Kingdom of Saudi Arabia lifted the ban on women driving as part of the Saudi Arabia Vision 2030 plan, which aims at diversifying the economy and modernizing the country. This research investigated the general perception of Saudis towards lifting the ban and also its economic and social impacts, particularly in relation to women's participation in the labor force. An online survey was distributed to 300 randomly selected male and female participants from several Saudi universities. The response rate was 81%, representing a total of 244 participants. Using AMOS, the data were analyzed using basic correlations, regression analysis, and Structured Equation Modeling (SEM). The results revealed that lifting the ban on women driving has a significant impact on economic growth and employment rates. Results also showed that lifting the ban has brought about several social benefits, including but not limited to controlling expenses, gaining more authority, and increasing women's participation in society.

Keywords: Labor market, woman's rights, equality.

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تأثير قيادة المرأة السعودية على النمو الاقتصادي وزيادة نسب التوظيف

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كلية ينبع الصناعية

المستخلص: رفعت المملكة العربية السعودية الحظر المفروض على قيادة المرأة للسيارة كجزء من خطة رؤية المملكة العربية السعودية 2030 التي تهدف إلى تنويع الاقتصاد وتحديث البلاد، وقد تناول هذا البحث التصور العام للسعوديين تجاه رفع الحظر، وكذلك آثاره الاقتصادية والاجتماعية، لاسيما فيما يتعلق بمشاركة المرأة في القوى العاملة. تم توزيع الاستبانة الإلكترونية عشوائيًا على 300 مشاركٍ تشمل الجنسين من الإناث والذكور من عدة جامعات سعودية، وبلغ معدل الاستجابة 81% تمثل ما إجماله 244 مشاركًا، وباستخدام برنامج AMOS، تم تحليل البيانات باستخدام الارتباطات الأساسية، وتحليل الانحدار، ونمذجة المعادلات المنظمة (SEM). وكشفت نتائج الدراسة أن رفع الحظر المفروض على قيادة المرأة له تأثير كبير على النمو الاقتصادي ومعدلات التوظيف، وقد أدى ذلك أيضًا إلى العديد من الفوائد الاجتماعية بما في ذلك، على سبيل المثال لا الحصر، التحكم في النفقات، واكتساب المزيد من السلطة، وزيادة مشاركتهم في المجتمع.

الكلمات المفتاحية: سوق العمل، حقوق المرأة، المساواة.

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Introduction

Saudi women traditionally and historically have faced many challenges, even before the ban on their driving that was lifted in 2018. Karolak (2023) stated that formerly, gender segregation in Saudi Arabia prevented women from reaching their fullest potential, and empowerment was seen as unessential in a rentier economic environment. However, Saudi Arabia has made significant progress toward improving women's rights. That move was part of a larger, more comprehensive strategy that the Saudi Arabian government has developed to spur economic growth and transformation. A reform plan called Vision 2030 seeks to improve the country's financial situation by diversifying the economy. Relatedly, by lifting the ban on women driving, the government has made a strategic decision that has led to significant changes that have given the entire Kingdom a considerable economic boost. But it should be noted that the plan to allow women behind the wheel is not only an economic change but also a social one. This progressive development, besides its financial benefits, was conducted in the belief that it would increase the employment rate of women and create more job opportunities for Saudi women.

According to Karolak (2023), it should be underlined that contemporary-day Saudi Arabia, under the leadership of Mohammed bin Salman, has witnessed considerable reforms that represent a turning point in the recent history of the Kingdom with respect to the contributions made by Saudi women in all aspects of life. Women are acknowledged and expected to fulfill certain roles in today's society. For instance, having the ability to drive immediately increased women's desire for employment as well as their participation in higher education and the workforce. As a result, access to childcare and healthcare looks to be improving, along with women's participation in the labor market (Krane et al., 2018). Moreover, the move promoted female investment in a range of economic sectors, which in turn increased the production and involvement of human capital. This is likely to help many families increase their income by giving them access to more employment opportunities. DeYoung (2017) reported that the Saudi Arabian government's reforms may be the most obvious sign so far that the country is becoming more modern. Al-Garawi et al. (2021) argue that the Saudi government has made a significant social revolution by permitting women to drive. This strategic decision can improve the image

of Saudi Arabia globally, be in line with the Saudi Vision 2030, and contribute to the country's economy. The objectives of this study included analyzing the impact of lifting the ban on women driving cars on the economic and societal transformation in Saudi Arabia, with a primary focus on how the move contributed to the employment rate, job opportunities for women, and ultimately the country's economic growth. To reach these goals, the following questions were proposed:

- What is the general perception of lifting the ban on women's driving in Saudi Arabia?
- What are the perceived economic benefits that result from lifting the ban on women driving?

Hypotheses:

H1: Lifting the ban on women's driving is perceived positively by Saudis.
H2: Lifting the ban on women's driving led to economic growth in the Saudi economy.
H3: Lifting the ban on women driving increased the employment rate in Saudi Arabia.

Literature Review

Since there are 3.2 million Saudi families who employ private drivers and pay them on average 1,500 SAR per month, households in Saudi Arabia collectively spend around 2.07 billion SAR per month on the costs and salaries of the drivers. These international drivers also receive benefits including health insurance, housing, and living costs (Saudi Gazette, 2017). According to *Maaal Newspaper* (2017) and *Saudi Gazette* (2017), there are roughly 1.38 million private drivers who work for Saudi families and other clients, earning an annual salary of about 33 billion SAR. Along with their pay, a significant sum of money is spent on hiring, housing, and visas. Furthermore, the *Maaal Newspaper* (2017) tabulated that according to government data, the proportion of private drivers is thought to be around 60% of all non-Saudi domestic workers. Additionally, the financial burden Saudi households incur by employing drivers raises the social expense of Saudi society. Similarly, according to the most recent traffic data, there were around 533,000 auto accidents in the Kingdom in 2016. And in the past, the Traffic Department calculated that foreign drivers were to blame for around 45% of such accidents. The Saudi Traffic Safety Association argues that the primary cause of these traffic incidents

is that 70% of foreign drivers who came to Saudi Arabia were uninformed of Saudi driving regulations and carried false licenses from their home countries.

Additionally, the Saudi Arabian Ministry of Labor's statistics report from 2012 states that social, legal, and economic factors are to blame for the rising rate of female unemployment. The following factors, according to the research, contributed to the greater rate of unemployment among women: (1) the women's role was seen traditionally as mother or wife, and they were not encouraged to pursue a career in the Kingdom; (2) the restriction over women's driving was the main barrier as they could not travel around to search for employment; (3) the government had sufficient laws to spur employment, but the implementation of these laws was not properly monitored; and (4) the "Hafiz" program did not serve its purpose, which was supposed to be helping job seekers until they find employment. There had also been misuse of "Hafiz" program funds because the beneficiaries became inactive in seeking jobs and became dependent on financial assistance from the government. Positively, despite these challenges, the participation of women in the Saudi labor force had already significantly increased from 5.4 percent in 2000 to 15.4 percent in 2013. But in spite of this 200%+ increase, at that time it still represented one of the lowest rates of women's employment in the Gulf region.

Interestingly, there is a strong correlation between women working and higher education, as in Saudi Arabia, working women on average receive greater schooling than males do. In actuality, whereas just 60% of working men possess either a secondary qualification or a university degree, more than 93% of employed women do. However, when it comes to the unemployment rate, women outnumber their male counterparts, with 78.3% of them being university graduates compared to 76% of men who just have a high school diploma or less.

As for the issue of increasing employment, attitudes towards women driving can play an important role. Al-Ahmadi (2011) and Rajkhan (2014) stated that the status of women in Saudi Arabia is very likely to alter as a result of the Kingdom's periodic changes in social and economic requirements. Additionally, it shows a change in Saudi Arabian policy toward boosting the position of Saudi women in the country's growth. Rajkhan (2014) provided data from an Al-Arabiya News study performed in 2012, which shows that 57% of the 1,500 participants were in favor of women driving. Furthermore, Alkhalisi (2017) reported that allowing women to drive can boost the economy in various sectors and lead to vast diversification as well. Naseem et al. (2017) emphasized that Vision 2030 will place a renewed emphasis on lifelong education and promote a culture of high performance to maximize the Saudi workforce's potential. As more than fifty percent of new university graduates are women, the Saudi government will continue to develop their talents, invest in their productive capabilities, and enable them to strengthen their future and contribute to the economic prosperity of society. Furthermore, Al-Garawi et al. (2021) conducted a survey to investigate male and female attitudes, reactions, and perceptions toward women driving in Saudi Arabia. The poll results reveal that women's driving has improved the Saudi economy. About 76% of the respondents agreed that women driving will help Saudi Arabia's income rates by (i) lowering women's monthly transportation costs, increasing car dealership sales, and lowering the number of private drivers and international labor remuneration, and (ii) achieving Vision 2030's ambitious nation objectives by increasing female empowerment and workforce participation.

Women driving will also leave more money in their household's pockets, as Arab News (2017) showed that about 800,000 South Asian expatriate drivers are working in the Kingdom with an average pay of $400 each month. After lifting the ban on women driving, women have been able to save that money traditionally spent on hiring private drivers, which will save national Saudi families around $ 5.1 billion annually. But the benefits extend beyond the e Women driving will also leave more money in their household's pockets, as Arab News (2017) showed that about 800,000 South Asian expatriate drivers are working in the Kingdom with an average pay of $400 each month. After lifting the ban on women driving, women have been able to save the money traditionally spent on hiring private drivers, which will save national Saudi families around $5.1 billion annually. But the benefits extend beyond the economic sphere and fit within the wider strategy of evolving the Saudi economy for the modern era. That is, the decision by the Saudi Arabian government to lift the ban on women driving has had a positive impact on the lives of Saudi women, allowing them to pursue their aspirations. Al-Khamri (2018) reported that the lifting of the ban has encouraged more women to work in the private sector. Similarly, Kosyfologou (2021) argued

that women have been at the forefront of these developments as the lifting of the ban on women driving, gender segregation in public spaces, and the male guardianship rule have all impacted essential components of the "solid" Saudi culture since the 1980s.

Economic sphere and fit within the wider strategy of evolving the Saudi economy for the modern era. That is, the decision by the Saudi Arabian government to lift the ban on women driving has had a positive impact on the lives of Saudi women, allowing them to pursue their aspirations. Al-Khamri (2018) reported that the lifting of the ban has encouraged more women to work in the private sector. Similarly, Kosyfologou (2021) argued that women have been at the forefront of these developments as the lifting of the ban on women driving, gender segregation in public spaces, and the male guardianship rule have all impacted essential components of the "solid" Saudi culture since the 1980s.

According to Rizvi et al. (2022), the World Bank's Women, Business, and the Law 2020 study listed Saudi Arabia as one of the economies that had made the most significant progress toward gender equality since 2017. This is due to recent economic changes and policies that have increased women's economic mobility. Wheeler (2020) indicated that Saudi women over the age of 18 can now receive a license to drive after completing the required formalities without having to seek male guardian approval, as was previously mandatory.

Krane et al. (2018) added that the lifting of the ban on women driving is intended to improve child care, health care, female employment rates, and gender segregation, while also boosting sales of automobiles and energy demand and reducing the number of expatriates leaving the country. Overall, the lifting of the ban on women driving represents a significant step forward for gender equality in Saudi Arabia and has the potential to bring about positive economic and social changes for the country.

According to Vogelstein (2017), one benefit of converting the oil-based economy into a modern one by expanding women's involvement in the workforce is the relaxation of the restriction on women driving. As a benefit, women are now able to exercise their fundamental rights, which they could not do in the past because of the system of male guardianship. Because the Saudi administration began to recognize the obstacles that were seriously harming the country's

economy, they wisely realized they must give women greater involvement in the labor force.

In research conducted by Woetzel et al. (2015), it was found that bridging the gender gap, such as by eliminating legal impediments to women's employment, may contribute another \$12 trillion to global GDP by 2025, and Saudi Arabia can play a key role in that transformation. Even though gender equality may take time to be completely accepted, allowing women to drive and fulfill their rights and obligations as important Saudi economic contributors is a good first step.

Fortunately, social attitudes towards women are evolving in Saudi Arabia as well, alongside the government's strategic objectives. For example, McKinsey (2014) studied gender diversity in the GCC (Gulf Cooperation Council) and compiled data from 550 male and female managers. Over half of those questioned responded that women in leadership are "very vital" to an organization's effectiveness. Moreover, 80% of female participants believe women's leadership positions are crucial and that their involvement at work will change corporate leadership. McKinsey's investigation showed that women are equally essential in making economic choices and in defining intelligent social transformation in academia and the GCC political atmosphere. In another study, Krane et al. (2018) displayed how the easing of the ban on women driving has led to better access to childcare and health care, as well as reduced high rates of female unemployment and gender segregation in Saudi Arabia.

Eum (2019) demonstrated how the Saudi Vision 2030 changes are driven by the conviction that women are essential to modernizing the country and preparing Saudi Arabia for a post-oil era. And their newly created role is made possible by allowing women to drive, reducing guardianship laws in the commercial sector, and expanding the number of jobs available to women. Additional research by Saleh et al. (2021) revealed that there has been a significant change in the characteristics, attitudes, and behaviors of Saudi women since they were given the option to drive.

With attitudes evolving, Saudi women, who have yet to be employed, are also an untapped reservoir of potential for the entire nation. According to a Saudi Arabia Labor Market Report (July 2016), highly educated women who have not yet entered the workforce are "reserved assets" that, once deployed in varied positions, are certain to double economic growth. This is because Saudi Arabia has the greatest

number of gender inequalities among the G-20 nations, with 77.8% of men working but only 20.2% of women.

Coinciding with the driving legislation has been an increase in women in government and the social sphere itself. Al-Eisa (2018) notes how women in Saudi Arabia have recently been appointed to higher positions such as deputy labor minister and allowed access to watch live football games in the stadium for the first time. Furthermore, such evolutions have borne immediate results, as Adam Taylor in *The Washington Post* (Sept. 29, 2017) reported that Saudi Arabia's Vision 2030 points out that the percentage of women workers increased in 2017 from 22% to 30%. This development was predicted exactly, however, as Saleh et al. (2021) pointed out that the Vision 2030 estimated that allowing women to drive would improve their mobility and increase women's labor force participation from 22% to 30%. Likewise, Saleh and Malibari (2021) support Adam Taylor's conclusion that empowering women to drive through the 2030 Agenda has had a significant impact on raising the number of women in the labor force from 22% to 30%. This is an indicator of the realization of women's role in boosting the economy for the kingdom in the years ahead.

The 2030 Agenda according to a Ministry of Labor and Social Development report from July 2016, will be carried out by the combined efforts of two important departments. But it will need to be combined in conjunction with other synergistic social initiatives, as Almunajjed (2010) and Rajkhan (2014) have underlined that societal pressures and insufficient family support are additional factors contributing to the low involvement of women in the Saudi labor market. Essentially, getting them into the car is a giant first step, but it must take place alongside social assistance to guarantee that the families of Saudi women support these changes and that all women have the upward mobility to then help craft their employment destiny.

To that aforementioned end, according to Lee (2017) in The Wall Street Journal, Saudi Arabia and the United Arab Emirates have promised to donate funds amounting to 100 million dollars to finance women's small businesses and entrepreneurship. Alongside that, Heideman and Romano (2016) reported that Saudi women were granted the right to work in professions such as pharmacies and opticians, on the condition that all workers are females. Which shows

that Saudi women have yet to achieve full workplace equality, but significant gains have been made.

Yet, Romano (2017) asserted that Saudi women have already substantially altered the appearance of Saudi Arabia. They have done so by attaining top positions in both governmental and private organizations, in a place where that was previously seen as culturally taboo or unthinkable. While university education remains the greatest contributing factor, it is also a byproduct of women's tenacity and will. Finally, Saudi women have been given the structural opportunities to emerge and demonstrate their equal importance in establishing a modern and educated Saudi society. In the interim, the Saudi government will continue to grant Saudi women the ability to work in additional areas.

The gains from women driving are also not even fully realized, as they will continue to grow. For instance, Al Sukhayri et al. (2020) conducted a study on female university youth in Saudi Arabia, and the findings revealed that the workforce, income, and productivity may all further increase as a result of allowing women to drive. This would also match the upward trend, as according to the General Authority for Statistics of Saudi Arabia (2020), the Saudi female labor force data has shown a dramatic increase in the last five years. According to statistical data, the Saudi female labor force was only 17.7% in quarter 2 of 2016 but had already increased to 33.2% in quarter 4 of 2020.

This study is comparable to the earlier studies in terms of providing support for female drivers, discouraging female job seekers, boosting the economy in a variety of industries, increasing female income, enhancing female mobility, and increasing employment rates from 22 percent to 30 percent (Rajkhan, 2014; Akhalisi, 2017; Naseem et al., 2017; Al-Garawi et al., 2021; Saleh et al., 2021). This research is similar to a study that was carried out by Garawi et al. (2021) regarding the reduction in the monthly cost of transportation, the decrease in the number of private drivers, and the increase in the empowerment of women. This study is distinct from others since it focuses on the components of women's lives that make them more comfortable than they were in the past. The study is groundbreaking in that it studies how lifting the ban on women driving helps families with low incomes reduce money transfers to countries outside of Saudi Arabia, increase accessibility to job locations, and encourage women's independence in their personal lives.

Research Methodology

In collecting data for this research, a sample of 300 respondents' data was collected using a survey questionnaire. The questionnaire was designed in Google Forms and sent randomly to 300 participants via email and social media applications. The data was then analyzed using simple correlation and regression analysis approaches, and the Structural Equation Modeling approach was applied using AMOS. The demographic data has been analyzed using a simple descriptive statistical method.

Results and Discussion
Demographic Analysis

The randomly selected sample consists of 244 respondents' responses for this study, out of which 54% are female and 46% are male (Figure 1 pie chart). Figure 2 displays that 37% of the participants in the study were non-Saudi citizens, while 63% were Saudi citizens. Figure 3 provides information about the age group of the respondents, and it reveals that the largest group, 33% of the respondents, are between the ages of 36 and 45 years old. Other participants' ages broke down to 8% (56+), 15% (46-55), 20% (18-25), and 24% (26-35), respectively. Figures 1, 2, and 3 are as follows:
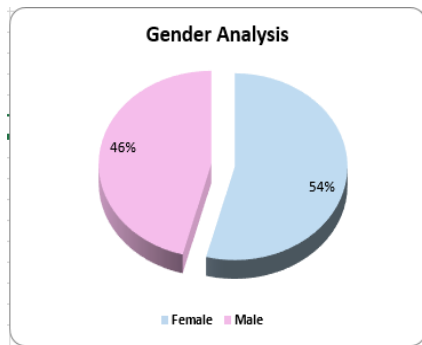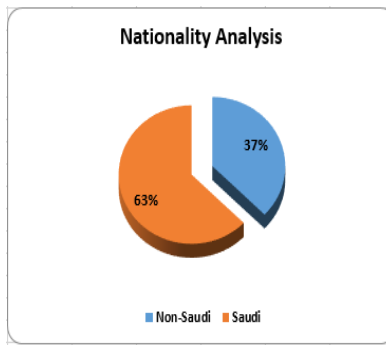

Figure 1. Gender Analysis

Figure 2. Nationality Analysis
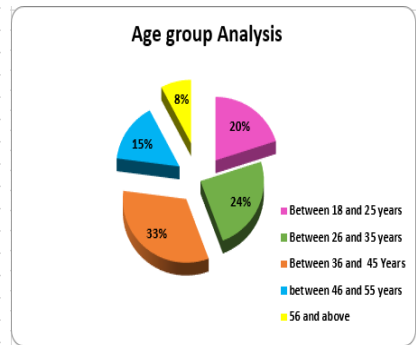
Figure 3. Age Group

Figure 4 presents the education levels of the respondents and hence displays that 8% of the respondents possess a high school education, 28% received a bachelor's degree (undergraduate), 22% secured a master's degree (graduate), and 42% have obtained a doctorate degree (postgraduate). This shows that a large number of the participants are well educated, as nearly 64% of the participants possessed master's degrees or higher.

Figure 4: Educational Level of Respondents

Descriptive Statistical Analysis

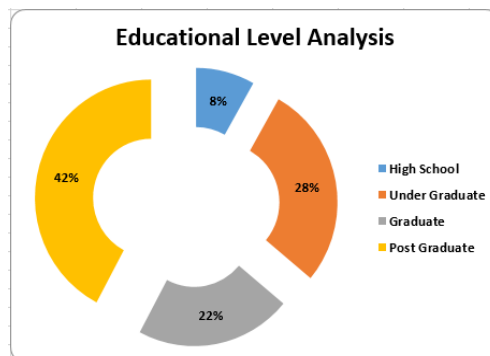The research randomly selected 300 respondents, and 249 replied to the questionnaire sent via e-mail and other social media applications. After careful analysis of the data, five of the respondents did not provide the complete data and, hence, were deleted from the collected responses. Therefore, the response rate is 81%, which is extremely appreciable.

Table 1 provides the percentage response, mean, and standard deviation of the total received responses for this study. The details of each question are given in Table 2. Question numbers 1 to 9 address the general reaction or perception about women driving in Saudi Arabia, and it is very clear from the results that a vast majority of the respondents agreed or strongly agreed with the statement asked of them. Q1 (I am pleased with the announcement of lifting the ban on women's driving) shows that 77% of the respondents either agreed or strongly agreed with the statement, 14% have no opinion about it, and just 9% disagree or strongly disagree with the statement. The mean response value was computed at 4.21 on a scale of 5, and the standard deviation was found to be 1.12. This reflects the opinion very positively. Other studies, such as Al-Garawi and Kamargianni (2021), found that 66.3% of women intended to drive the car. 70% of their respondents reported that they used private taxis as there was no driving option for women available before.

Q2 (Lifting the ban on women's driving is a positive initiative by the government) was also supported very positively by the respondents. The results show that 82% of the respondents agreed, 10% remained neutral, and just 8% disagreed with this statement. The mean response value was identified as 4.27, with a standard deviation of 1.04.

Similarly, Q3 (This decision brings progressive changes to women's lifestyles), Q4 (Lifting the ban over women's driving helps reduce the burden on husbands' responsibilities), Q5 (Lifting the ban over women's driving makes women's life more comfortable), Q6 (Lifting the ban over women's driving creates gender equality), Q7 (Lifting the ban over women's driving highly reduces hiring private drivers by Saudi families), Q8 (Lifting the ban over women's driving makes the women more independent), and Q9 (This decision gives an opportunity to rise in women's earnings) have a higher degree of positive responses for both agree or strongly agree. The response percentage values are 91%, 76%, 83%, 55%, 79%, 75%, and 71%, respectively. The mean value and standard deviation of Q3, Q4, Q5, Q6, Q7, Q8, and Q9 are (4.5, 0.79), (4.06, 1.15), (4.02, 1.19), (3.57, 1.30), (4.14, 1.07), (4.07, 1.11), and (3.95, 1.12), respectively.

The response value percentages from Q10 to Q15 found for the agreement of the statements in each of the questions were also very positive and high. The values were 58%, 66%, 74%, 69%, 87%, and 62%, respectively. Similarly, the mean values for these statements are also higher except for Q10 and Q15, which are 3.57 and 3.78 with a standard deviation value of 1.30 and 1.11. The rest of the statements' mean values are 3.95, 3.86, 4.07, 3.93, and 4.33, with respective standard deviation values of 1.12, 1.13, 1.06, 0.98, and 0.85. Finally, the response percentage of statements from Q17 through Q20 is also high, at 70%, 82%, 79%, and 77%. The mean value and standard deviation from Q17 through Q20 were found to be (3.94, 1.00), (4.17, 1.06), (4.08, 1.04), and (4.10, 1.00), respectively.

Table 1: Summary, Mean and Standard Deviation of the responses

N = 244	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree	Mean	SD
Q1	57%	20%	14%	4%	5%	4.21	1.12
Q2	57%	25%	10%	5%	3%	4.27	1.04
Q3	64%	27%	7%	2%	1%	4.50	0.79
Q4	46%	30%	12%	6%	6%	4.06	1.15
Q5	47%	26%	14%	8%	5%	4.02	1.19
Q6	32%	23%	25%	10%	10%	3.57	1.30
Q7	48%	31%	11%	7%	3%	4.14	1.07
Q8	47%	28%	15%	6%	4%	4.07	1.11
Q9	40%	31%	16%	9%	4%	3.95	1.12

Q10	30%	28%	20%	13%	9%	3.57	1.30
Q11	36%	30%	22%	7%	5%	3.86	1.13
Q12	45%	29%	18%	5%	3%	4.07	1.06
Q13	32%	37%	23%	5%	2%	3.93	0.98
Q14	51%	36%	9%	3%	1%	4.33	0.85
Q15	32%	30%	25%	9%	4%	3.78	1.11
Q16	40%	37%	16%	5%	2%	4.09	0.97
Q17	34%	36%	23%	4%	3%	3.94	1.00
Q18	48%	34%	9%	4%	5%	4.17	1.06
Q19	42%	37%	13%	5%	4%	4.08	1.04
Q20	43%	34%	16%	5%	2%	4.10	1.00

Correlation Analysis

Table 2: Correlation Analysis of each statement

	Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	Q10	Q11	Q12	Q13	Q14	Q15	Q16	Q17	Q18	Q19	Q20
Q1	1.00																			
Q2	0.92	1.00																		
Q3	0.54	0.52	1.00																	
Q4	0.62	0.59	0.50	1.00																
Q5	0.67	0.66	0.53	0.62	1.00															
Q6	0.61	0.60	0.46	0.58	0.63	1.00														
Q7	0.62	0.60	0.49	0.53	0.58	0.57	1.00													
Q8	0.59	0.59	0.51	0.63	0.71	0.63	0.58	1.00												
Q9	0.62	0.63	0.47	0.64	0.67	0.67	0.66	0.68	1.00											
Q10	0.58	0.58	0.35	0.58	0.55	0.65	0.60	0.50	0.63	1.00										
Q11	0.57	0.57	0.41	0.57	0.50	0.57	0.57	0.53	0.68	0.69	1.00									
Q12	0.67	0.71	0.53	0.59	0.61	0.62	0.58	0.60	0.62	0.65	0.63	1.00								
Q13	0.23	0.23	0.28	0.31	0.35	0.27	0.34	0.27	0.31	0.23	0.24	0.29	1.00							
Q14	0.35	0.36	0.31	0.36	0.36	0.30	0.44	0.35	0.38	0.20	0.31	0.35	0.60	1.00						
Q15	0.36	0.35	0.30	0.37	0.39	0.34	0.47	0.30	0.40	0.44	0.47	0.44	0.23		1.00					
Q16	0.51	0.54	0.41	0.55	0.55	0.59	0.57	0.58	0.69	0.55	0.58	0.56	0.28	0.44	0.45	1.00				
Q17	0.47	0.53	0.36	0.44	0.47	0.52	0.49	0.54	0.60	0.51	0.60	0.57	0.33	0.50	0.45	0.74	1.00			
Q18	0.59	0.62	0.37	0.51	0.53	0.60	0.56	0.55	0.56	0.52	0.53	0.61	0.27	0.54	0.43	0.61	0.60	1.00		
Q19	0.54	0.60	0.40	0.55	0.55	0.53	0.57	0.58	0.57	0.53	0.55	0.63	0.31	0.44	0.46	0.63	0.63	0.72	1.00	
Q20	0.63	0.65	0.42	0.57	0.64	0.64	0.58	0.66	0.68	0.57	0.60	0.65	0.30	0.44	0.40	0.75	0.75	0.69	0.75	1.00

Table 2 reveals the results of the correlation among the variables of the study. All the relationships are positive but vary from insignificant levels to very strong relationships. The relationship between Q1 and Q2 is very strong because the respondents found it very positive when the lifting of the ban on women driving was announced by the government. However, it generated a multicollinearity issue as the coefficient of correlation was found to be 0.92. This is an extremely high and near-perfect correlation. Therefore, the coefficient of correlation between Q1 and Q2 generates a high amount of variance. The relationship between Q1 and Q3—Q12, Q16, Q18, Q19, and Q20—is very significant, and the coefficient of correlation values lies between 0.51 and 0.67. Similarly, the coefficient of correlation between Q2 and Q12, Q16, Q17, Q18, Q19, and Q20 was found to be very significant, and the value lies between 0.52 and 0.71. The coefficient of correlation between Q3 and Q5, Q8, and Q12 was found to be very significant, which reflects the opinion of the respondents that the lifting of the ban is appreciated by them. The relationship between Q4 and Q5—Q12, Q16, Q18, Q19, and Q20—was found to be very significant, and the value lies between 0.51 and 0.64. The relationship between Q5 and Q12, Q16, Q18, Q19, and Q20 was also found to be very significant, with a value between 0.53 and 0.71. The coefficient of correlation values between Q6 and Q7-Q12 and Q16-Q20 were found to be very significant and lie between 0.52 and 0.67.

The correlation between Q1 and Q14, Q15, Q17 was significant, between Q2 and Q14, Q15 was significant, between Q3 and Q4, Q6, Q7, Q9, Q10, Q11, Q14 through Q20 was significant, between Q4 and Q13 – Q17 was significant, between Q5 and Q11, Q13, Q14, Q15 and Q17 was significant, between Q and Q13, Q14, and Q15 was significant, between Q7 and Q13, Q14, Q15 and Q17 was significant, between Q8 and Q13, Q14, and Q15 was significant, between Q9 and Q13, Q14, and Q15 was significant, between Q10 and Q15 was significant, between Q11 and Q14 & Q15 was significant, between Q12 and Q13, Q14,

and Q15 was significant, between Q13 and Q16 through Q20 was significant, between Q14 and Q16, Q17, Q19 & Q20 was significant, and between Q15 and Q16 through Q20 was significant. The values for these coefficients of correlation were found to be between 0.27 and 0.50.

Finally, there are some values that show some insignificance among these variables. The relationship between Q1 and Q13 and between Q2 and Q13 was found to be very low and insignificant. The relationship between Q10 and Q13 and Q14, between Q11 and Q13 and Q15, and between Q14 and Q15 was also found to be insignificant, as the value lies between 0.13 and 0.23. This actually does not fully support the argument that lifting the women's driving ban would increase car sales, increase consumer spending, or remarkably stop remittance transfers from Saudi Arabia to the rest of the world. On the other hand, it supports the argument that lifting the women's driving ban would increase women's employment, contribute more to family business, and decrease travel costs to the workplace.

Hypotheses Testing
The results from Table 2, Table 6, and Table 9 help in making a judgment about the hypotheses of the study.
H1: Lifting the ban on women's driving is perceived positively by Saudi citizens.
The correlation results for the first twelve questions Q1 through Q12 produce either strong or very significant correlation values that lie between 0.51 and

0.92 and are positive. The p-values for these variables were found to be less than 0.05, which helps to accept the hypothesis. Hence, this hypothesis is accepted.
H2: Lifting the ban on women's driving led to economic growth in the Saudi economy.
The results from Table 2, Table 6, and Table 9 show that the relationship among the variables related to economic growth is significant, and hence the lifting of the women's driving ban partially contributes to economic growth; therefore, the hypothesis is partially accepted.
H3: Lifting the ban on women's driving increases the employment rate in Saudi Arabia.
The results from Table 2, Table 6, and Table 9 of the coefficient correlation explain that there is a very significant correlation between lifting the ban on women's driving and an increase in the employment rate in Saudi Arabia; hence, this hypothesis is supported.

Regression Analysis
Tables 3, 4, and 5 present the results of the regression analysis conducted for the collected data, and it shows that a strong relationship exists among the variables, which have already been proven in the previous section of correlation analysis. The value of R is 0.85, and R^2 was found to be 0.73. Table 2 shows that the significant F value is less than the p-value (0.05); hence, it demonstrates that there is economic growth in Saudi Arabia after lifting the ban on women's driving.

Table 3: Output Summary of Regression Analysis

Summary Output	
Regression Statistics	
Multiple R	0.85
R Square	0.73
Adjusted R Square	0.73
Standard Error	0.40
Observations	244

Table 4: Analysis of Variance of the Data

ANOVA					
Statistical Models	*df*	*SS*	*MS*	*F*	*Significance F*
Regression	2	102.071	51.035	324.558	0.000
Residual	241	37.896	0.157		
Total	243	139.967			

Table 5: Analysis of the Coefficients of the Regression Line

	Coefficients	Standard Error	t Stat	P-value
Intercept	0.753	0.127	5.930	0.000
Lifting Ban	0.415	0.047	8.850	0.000
Employment Rate	0.361	0.048	7.577	0.000

Economic Growth is a Dependent Variable

Table 5 results in the beta coefficient values of y-intercept (0.753), Lifting Ban (0.415), and Employment Rate (0.361). The t-test results show that the significance level of the Lifting Ban and Employment Rate is 0.000, which is less than the p-value (0.05) and hence accepts the argument that there has been economic growth in Saudi Arabia after lifting the ban on women's driving. The predictive economic growth can be computed by using the following linear regression line:

Economic Growth = 0.753 + 0.415 (Lifting Ban) + 0.361 (Employment Rate) + 0.127 set
This specifies that the contribution of lifting the ban is 41.5% on the employment rate and 36.1% on the economic growth in Saudi Arabia after lifting the ban on women's driving.

SEM Analysis using AMOS
Covariance Analysis

Table 6: Covariance: (Lifting Ban, Economic Growth, and Employment Rate)

Model variables			Estimate	S.E.	C.R.	P
LiftBan	<-->	EconGrowth	.505	.053	9.578	0.001
LiftBan	<-->	EmpRate	.621	.064	9.715	0.001
EconGrowth	<-->	EmpRate	.495	.052	9.609	0.001

The probability of getting a critical ratio as large as 9.578 in absolute value is less than 0.001. In other words, the covariance between LiftBan and EconGrowth is significantly different from zero at the 0.001 level (two-tailed). There is a positive and significant correlation between Lifting Ban and Economic Growth.
The probability of getting a critical ratio as large as 9.715 in absolute value is less than 0.001. In other words, the covariance between LiftBan and EmpRate is significantly different from zero at the 0.001 level (two-tailed). There is a positive and significant correlation between the Lifting Ban and the Employment Rate of women's driving options.
The probability of getting a critical ratio as large as 9.609 in absolute value is less than 0.001. In other words, the covariance between EconGrowth and EmpRate is significantly different from zero at the 0.001 level (two-tailed). There is a positive and moderately significant correlation between Economic Growth and Employment Rate due to women's driving in Saudi Arabia.

Table 7: Correlation Analysis of Lifting Ban, Economic Growth, and Employment Rate

			Estimate
LiftBan	<-->	EconGrowth	.779
LiftBan	<-->	EmpRate	.797
EconGrowth	<-->	EmpRate	.783

The results from Table 7 reflect that there is a positive and highly significant correlation (0.779) that exists between the Lifting of the Ban and Economic Growth after lifting the ban on women's driving. Similarly, the correlation between the Lifting of the Ban and the Employment Rate was found to be positive and highly significant (0.797). Finally, the correlation between Economic Growth and Employment Rate was also found to be highly significant and positive (0.783). Therefore, there is a nearly 80% chance that Economic Growth will increase from Lifting the Ban on women's driving and increasing the employment rate. Similarly, there is a 78% chance that the Employment Rate of women increased because of economic growth due to lifting the ban on women's driving.
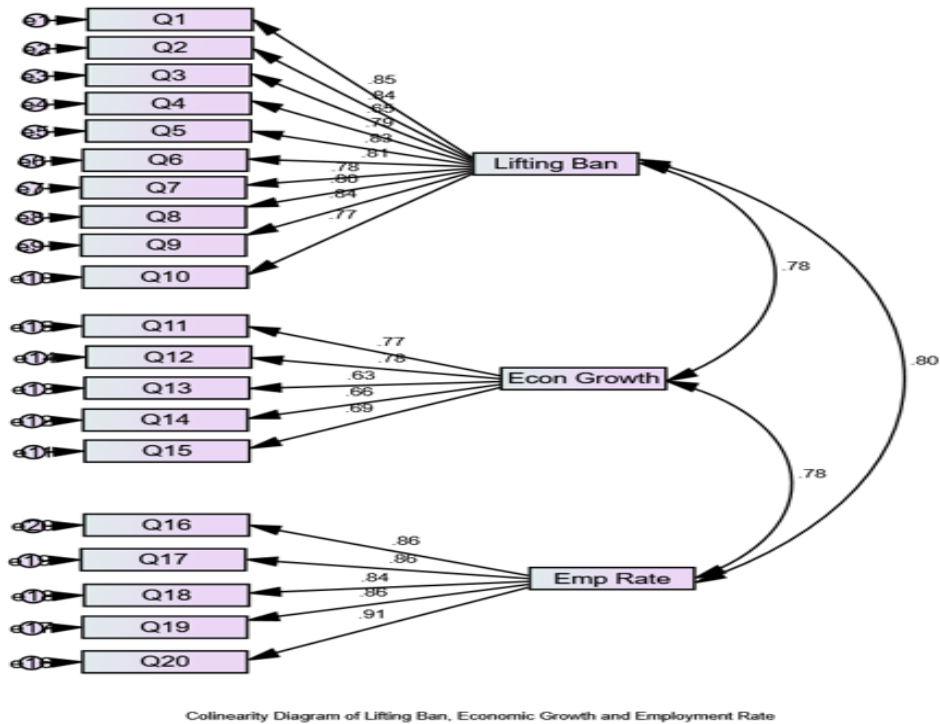

Colinearity Diagram of Lifting Ban, Economic Growth and Employment Rate

Figure 5. The collinearity among the variables of the Model

Figure 1 and Table 8 present the relationship among the variables of each factor, and the data (Figure 5) displays that the correlation among the variables of Lifting of Ban (Q1 through Q10) is significantly positive and value ranges from 0.772 to 0.845. The correlation between Economic Growth and its variables (Q11–Q15) was found to be positive and significant, ranging from values of 0.629 to 0.783. Finally, the correlation between Employment Rate and its variables was also found to be positive and highly significant, with ranges from 0.840 to 0.907.

Table 8: Standardized Regression Weights: (Group number 1 - Default model)

			Estimate
Q1	<---	LiftBan	.845
Q2	<---	LiftBan	.836
Q3	<---	LiftBan	.648
Q4	<---	LiftBan	.793
Q5	<---	LiftBan	.832

			Estimate
Q6	<---	LiftBan	.813
Q7	<---	LiftBan	.781
Q8	<---	LiftBan	.803
Q9	<---	LiftBan	.840
Q10	<---	LiftBan	.772
Q11	<---	EconGrowth	.773
Q12	<---	EconGrowth	.781
Q13	<---	EconGrowth	.629
Q14	<---	EconGrowth	.662
Q15	<---	EconGrowth	.686
Q16	<---	EmpRate	.856
Q17	<---	EmpRate	.856
Q18	<---	EmpRate	.840
Q19	<---	EmpRate	.864
Q20	<---	EmpRate	.907

Table 9: AMOS Results Analysis of various models of fit

Default	AIC	BCC	BIC	CAIC	NPAR	CMIN	RMR	GFI
Model	359.740	369.823	520.610	566.610	46	267.740	0.085	0.660

The perfect fit model value of AIC should be close to zero, but in this case, the value is very high, and the model does not fit perfectly, and the same applies to BCC, BIC, and CAIC values, respectively. The model has a discrepancy of 267.740 with 46 parameters. The RMR (root mean square residual) is the square root of the average squared amount by which the sample variances and covariance differ from their estimates obtained under the assumption of the applied model, and it is reported as 0.085; hence, the goodness of fit of the model is reported as 0.660, which is less than the good fit model value of 0.90.

Implications
The Saudi government has taken enormous steps to empower and enable women to commute independently by allowing them to drive. On June 24, 2018, the new law went into effect, and a lot of women have since been observed driving alone. The goal of the study was to determine how women's driving affects economic growth, their employment rate, and their public perceptions of the ban lift. Using a survey questionnaire that addressed the topics pertaining to these parameters, the study gathered data from 244 replies from 300 randomly selected participants. Three hypotheses evaluated in this study were: H1: Lifting the prohibition on women's driving will be favorably viewed by Saudi citizens; H2: The Saudi economy will develop as a result of lifting the ban on women's driving; and H3: Lifting the ban on women's driving increases the employment rate in Saudi Arabia. The results showed that there is a high correlation among these factors, and the covariance among these variables suggests the hypotheses are true and accepted.

The findings demonstrated that eliminating the restriction on women operating motor vehicles was overwhelmingly favorable. It also showed that Saudi Arabia's economy is growing as a result of women driving. As a result, women believe that they could be more independent in controlling their expenses, gaining more authority, and partaking in several career possibilities that they were previously unable to accomplish. The research primarily considered only economic factors, and social and psychological difficulties were not addressed in this study. This may be included in the course of future research.

Overview of the Results and Recommendations
The research study reported that, overall, 77% of participants were delighted with the announcement that the prohibition on women driving would be lifted, and 82% of participants appreciated this good initiative from the Saudi government. Most

importantly, the study noted that 91%, 76%, 83%, 55%, 79%, 75%, and 71% of participants agreed, respectively, on changes in women's lives, lessening the burden on husbands, making life more comfortable, promoting gender equality, reducing the use of private drivers, making women more dependent, and increasing women's earnings. Also, the study informed that 7%, 82%, 79%, and 77% of respondents, respectively, believed that lifting the ban on women driving had availed opportunities for more family businesses, made job locations accessible, and cut down on commuting costs.

Based on the findings of the research study, the following recommendations are proposed: First, women who wish to drive should be offered short training programs to learn how to perform minor repairs on their vehicles. Second, women who plan to drive on highways should receive training in first aid, enabling them to provide initial assistance until emergency services arrive. Third, comparative studies should be conducted on accident rates between men and women in Saudi Arabia, following the lifting of the ban on women driving, to assess the impact of this change on road safety. Finally, further research should be conducted to explore the potential negative consequences of women driving in Saudi society, including social, cultural, and economic aspects. This research could provide valuable insights into the potential challenges and opportunities that may arise as a result of this significant social change.

References

Al-Ahmadi, H. (2011). Challenges facing women leaders in Saudi Arabia. *Human Resource Development International, 14*(2), 149–166. https://doi-org.sdl.idm.oclc.org/10.1080/13678868.2011.558311

Al-Eisa, E. (2018). Women's Empowerment is Happening and Heartfelt. *Arab News*.

Al-Garawi, N. and Kamargianni, M. (2021). Exploring the factors affecting women's intention to drive in Saudi Arabia. *Travel Behaviour and Society, 26*, pp.121–133. DOI: https://doi.org/10.1016/j.tbs.2021.09.008

Al-Garawi, N. & Anil, I. (2021). Geographical distribution and modeling of the impact of women driving cars on the sustainable development of Saudi Arabia. *Sustainability (Switzerland), 13*(17). Retrieved from: https://doi-org.sdl.idm.oclc.org/10.3390/su13179941

Alkhalisi, Z. (2017). Women driving could rev up the Saudi economy. *CNN Business*. Retrieved from: http://money.cnn.com/2017/09/27/news/economy/saudi-women-driving-economy/index.html

AlMunajjed, M. (2010). *Women's Employment in Saudi Arabia a Major Challenge*. Ideation Center Insight, New York: Booz & Company Inc.

AlSukhayri, A. M., Aslam, M. A., Saeedi, K., & Malik, M. S. A. (2020). A linked open data-oriented sustainable system for transparency and open access to government data: A case study of the public's response to women's driving in Saudi Arabia. *Sustainability*, *12*(20), 8608.

Arab News. (2017). Saudi Arabia: Saudi Royal decree will help families save money currently spent on private drivers. Retrieved from: https://www.arabnews.com/node/1168406/saudi-arabia

DeYoung, K. (2017). Saudi government says it will allow women to drive. The Washington Post. Retrieved from: https://www.washingtonpost.com/world/national-security/saudi-government-says-it-will-allow-women-to-drive/2017/09/26/9f1b08ea-a2ee-11e7-8cfe-d5b912fabc99_story.html

Eum, I. (2019). New women for a New Saudi Arabia? Gendered analysis of Saudi Vision 2030 and women's reform policies. *Asian Women*, *35*(3), 115-133. Retrieved from:http://easianwomen.org/_common/do.php?a=full&b=12&bidx=1703&aidx=21116

General Authority for Statistics of Saudi Arabia. (2020). *Labor Market Report*. Retrieved from:https://www.stats.gov.sa/sites/default/files/LM_Q4%202020%20%28Press%20release_EN%29_4.pdf

Heideman, K and & Romano, C. J. (January-March, 2016). Mena Women Quarterly Report. Wilson Center. https://www.wilsoncenter.org/publication/mena-women-quarterly-report-january-march-2016

Karolak, M. (2023). Saudi Women in the Mohammed bin Salman Era: Examining the Paradigm Shift. In *The Palgrave Handbook of Gender, Media and Communication in the Middle East and North Africa* (pp. 65-81). Cham: Springer International Publishing.

Khamri, H. (2018). Why did Saudi Arabia lift the driving ban on women only now? Aljazeera News. Retrieved from: https://www.aljazeera.com/opinions/2018/6/24/why-did-saudi-arabia-lift-the-driving-ban-on-women-only-now

Kosyfologou, A. (2021). The Status of Women in Saudi Arabia. Gender Relations - Middle East. News. Retrieved from: https://www.rosalux.de/en/news/id/45316/the-status-of-women-in-saudi-arabia

Krane, J., & Majid, F. (2018). Women Driving in Saudi Arabia: Ban Lifted, What are the Economic and Health Effects? Issue Brief, 6. Retrieved from https://scholarship.rice.edu/handle/1911/102770

Lee, C., E. (May 21, 2017): Saudi Arabia, U.A.E. Pledge $100 Million to World Bank's Women Entrepreneurs Fund. The Wall Street Journal. Retrieved from: https://www.wsj.com/articles/saudi-arabia-u-a-e-pledge-100-million-to-world-banks-women-entrepreneurs-fund-1495339028

Maaal. (September 26, 2017). After the historic decision, "Mal" monitors 1.38 million private drivers receive 33 billion annually (in Arabic). (H. Altalhi, Trans.) Retrieved from http://www.maaal.com/archives/20170927/97023

Mckinsey & Company. (2014). Women Matter 2014: GCC Women in Leadershipfrom the first to the norm: Unlocking women's potential to enhance organizational effectiveness in the Gulf Cooperation Council(GCC) states. Retrieved from: https://mujeres360.org/wp-content/uploads/2014/08/GCC_Women_In_Leadership_FINAL-1.pdf

Ministry of Labor and Social Development. (2016), Saudi Arabia Labor Market Report. 3rd ed. Kingdom of Saudi Arabia: Ministry of Labor and Social Development.

Naseem, S., & Dhruva, K. (2017). Issues and challenges of Saudi female labour force and the role of Vision 2030. International Journal of Economics and Financial Issues, 7(4), 23-27. https://dergipark.org.tr/en/download/article-file/364529

Rajkhan, S., F. (2014). Women in Saudi Arabia: Status, rights, and limitations. (Master Thesis: University of Washington Bothell, Bothell, WA, United States). Retrieved from: https://digital.lib.washington.edu/researchworks/bitstream/handle/1773/25576/Rajkhan2020Capstone.pdf?sequence=1

Rizvi, L. J., & Hussain, Z. (2022). Empowering woman through legal reforms-evidence from Saudi Arabian context. International Journal of Law and Management, 64(2), 137–149. https://doi-org.sdl.idm.oclc.org/10.1108/IJLMA-03-2021-0068

Romano, J. C. (2017). Women Driving Positive Change in the Middle East, Middle East. Wilson Center, Washington, DC, USA. Retrieved from: https://www.wilsoncenter.org/publication/women-driving-positive-change-the-middle-east

Saleh, W., & Malibari, A. (2021). Saudi women and vision 2030: bridging the gap? Behavioral Sciences, 11(10), 132. 2030 and women's reform policies. Asian Women, 35(3), 115-133. Retrieved from: https://www.mdpi.com/2076-328X/11/10/132.

Saudi Gazette (2017). Private drivers cost Saudi families more than SR2 billion monthly. Retrieved Sept. 10, 2022. Retrieved from: https://saudigazette.com.sa/article/514188

Taylor, A. (June 02, 2016). Saudi Arabia bought a huge stake in Uber. What does that mean for female drivers? The Washington Post. Retrieved from: https://www.washingtonpost.com/news/worldviews/wp/2016/06/02/saudi-arabia-bought-a-huge-stake-in-uber-what-does-that-mean-for-female-drivers/

Vogelstein, R. B. (September 29, 2017). Women Can Drive Now in Saudi Arabia. Here's What They Still Can't Do. Fortune. Retrieved from: http://fortune.com/2017/09/28/saudi-arabia-women-driving-economic-effect/

Wheeler, D. L. (2020). Saudi Women Driving Change? Rebranding, Resistance, and the Kingdom of Change. Journal of the Middle East & Africa, 11(1), 87–109. https://doi-org.sdl.idm.oclc.org/10.1080/21520844.2020.1733865

Woetzel, J. et. al. (2015). The power of parity: How advancing women's equality can add $12 trillion to global growth. (No. id: 7570). McKinsey Global Institute. Retrieved from: https://www.mckinsey.com/featured-insights/employment-and-growth/how-advancing-womens-equality-can-add-12-trillion-to-global-growth

Appendix

Question Set

The 20 'questions' posed to the participants, are statements which asked them to rank the accuracy of the sentiment on a scale of: 1 (strongly disagree), 2 (disagree), 3 (neutral), 4 (agree), 5 (strongly agree). The following 20 statements represented as Q1-Q20 were as follows:

Q1 - I am pleased with the announcement of lifting the ban over women's driving

Q2 - Lifting the ban over women's driving is a positive initiative by the government.

Q3 - This decision will bring progressive changes to women's lifestyles.

Q4 - Lifting the ban over women helps reducing the burden on husbands' responsibilities.

Q5 - Lifting the ban over women's driving will make women's life more comfortable.

Q6 - Lifting the ban over women's driving will create gender equality.

Q7 - Lifting the ban over women's driving will highly reduce hiring private drivers by Saudi families.

Q8 - Lifting the ban over women's driving will make the women more independent.

Q9 - This decision will give an opportunity to rise in women's earnings.

Q10 - Overall, family expenses will be reduced significantly by allowing women to drive.

Q11 - Lifting the ban over women's driving will support low-income families.

Q12 - Lifting the ban over women driving will contribute to the country's economy.

Q13 - Lifting the ban over women's driving will increase consumer spending.

Q14 - Lifting the ban over women's driving will increase car sales.

Q15 - Lifting the ban on women's driving will remarkably decrease money transfers outside Saudi Arabia.

Q16 - Lifting the ban over women's driving will increase the women's employment.

Q17 - Lifting the ban over women's driving will lead to more family businesses.

Q18 - Lifting the ban over women's driving will make job locations more accessible.

Q19 - Lifting the ban over women's driving can decrease travel cost to commute for work.

Q20 - Lifting the ban over women's driving will empower women to compete in the job market.