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The feasibility of video-conferencing technology as a communication tool in Bahraini Courts

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Abstract

In the Kingdom of Bahrain, prisoners are moved to and from the public prosecution and court in prisoner convoys. The prisoner convoys can be unsafe, physically tiring on the security personnel, and expensive. This report attempted to study the feasibility of utilizing video conferencing technology as a viable method of conducting judicial proceedings. Current and past literature was reviewed to establish the key determining factors for implementing such a system. In particular, credence was placed upon the legal, financial, and security options available to establish feasibility. Clear objective benefits of the methodology were established and then examined for their applicability in the Kingdom of Bahrain, ultimately concluding that both the technology and its application should be considered for implementation.



Table of Contents

1	Introduction.....	4
2	Literature Review.....	5
2.1	International Adoption	5
2.2	Security Implications.....	7
2.3	Resources Expenditure.....	9
2.4	Legal Implications.....	11
3	Research Methodology	13
4	Results.....	14
4.1	Interviews	14
4.2	Case Study	16
4.3	Convoy cost analysis.....	17
4.3.1	Convoy Data	19
4.3.2	Personnel Cost	19
4.3.3	Fuel cost	19
4.3.4	Vehicle Cost.....	19
4.3.5	Conclusion	20
4.3.6	Excluded Parameters.....	21

5	Discussion	23
6	References.....	24



1 Introduction

The government of the Kingdom of Bahrain launched the eGovernment strategy 2020 for which the government is to achieve its goals in focusing to advance the living standard, taking in to consideration the reduction of government expenses. His Royal Highness the crown Prince, Salman bin Hamad Al Khalifa, plays a key role in promoting development within the Kingdom as well as supporting the reform initiatives in economic, education and health sectors.

Considering the need for more efficient development, and the reduction of government expenses, introducing live video feeds from inside the prison to the court room and the public prosecution will save money spent on transporting the prisoners from prison and back along with its benefits to improve the security and protection of witnesses and victims while also reducing the risk of escape.

Prison Video Link to public prosecutors and courts will minimize the expenses spent on prisoner convoys. The Kingdom of Bahrain has the prison fully occupied with prisoners and some are still attending court sessions that are sometimes delayed due to the unattendance or the late arrival of the prisoner. The prison video link is safer for the prisoners and prison staff. The relocation of prison staff that attend the convoys will help the prison in its capacity to work comprehensively.

This step would be an essential step towards establishing the Kingdom of Bahrain as industry innovators in Middle East. This is largely due to the fact that there is very little evidence to suggest that other countries in the Middle East are heavily integrating technology into their judicial practices. As such, applying this technological system will assist in achieving His Majesty King Hamad Bin Isa Al Khalifa 2030 vision to enhance government performance and efficiency.



2 Literature Review

2.1 International Adoption

The prison population in Bahrain has steadily increased from 2,307 at 2012 to 3,485 at 2017 ("Bahrain | World Prison Brief", 2018). This increased since the introduction of propaganda resulting from the hidden cold war being waged between Saudi Arabia and Iran that has been the focus of all of the proxy wars happening in the Middle East, this has prompted a hard stance towards possible insurgencies from other countries as well as native radicals (Schmierer, Jeffrey, Nader & Nazer, 2016).

In comparison, the prison population in the United Kingdom has increased from 33 prisoners per 100,000 in the beginning of 1940s to 179 prisoners per 100,000 in 2017 (Sturge, 2018). As a result, the increasing population prompted policy makers to find convenient ways of serving this growing population as well as expedite justice (McKay, 2016).

It is noteworthy that the foreign prisoner population in the UK is 49% which has increased significantly over the years (Sturge, 2018). As a result, most Crown Courts and Magistrates



courtrooms in England and Wales have video links to one or more remand centres or prisons to cope with the increasing demand for judicial procedures for these individuals.

In the late 1990s, two laws were passed within five years of each other in the UK to pave the way for use of live video link in court. According to Section 57 of the Crime and Disorder Act 1998, pre-trial proceedings involving a defendant placed in custody can be conducted via a live television link between the prison and the court (Hancock & Jewkes, 2011).

Meanwhile, the Criminal Justice Act 2003 added that courts had powers to use technology across a wide range of hearings. However, it is only possible where the facilities have installed prison video links. It is worth noting that the court has the right of discretion whether the hearing should be conducted via a video link and if both prosecution and defence may make representations. In case a magistrate court decides against using the video link option, then an appropriate reason must be given.

The UK set out its business case for the adoption of prison video links on the Department of Constitutional Affairs Website. The system contributes to the criminal justice by improving the process of delivering justice to increase the number of criminals charged with crimes committed to 1.2 million by 2015/2016 (McKay, 2016). Secondly, the system helps to improve public confidence in the UK criminal justice system.

In regards to increased confidence the system increases year-to-year satisfaction of witnesses and victims whilst upholding the defendants' rights (McKay, 2016). Finally, the system increases value for money for the criminal justice system by 3% each year as well as increase annual efficiency by 2% (Johnson & Wiggins, 2006). Succinctly, the available research shows that the

prison video link improves service delivery, enhance security to the public, eliminate delays, cut costs and uphold the rights of the defendants.

According to Parker (2011) there is no evidence of any country that has installed prison video link system in the Middle East. So far, the United States and the UK are the only countries that have implemented this new prison visitation approach to lower costs and expedite justice (Parker, 2011). This study is over 7 years old so it is likely that some other countries now utilize video links.

Several issues have emerged as the system is gradually being installed in Crown Courts and Magistrate Courtrooms across the UK. Proponents of the prison video links defend the system by asserting that it is cost-effective and time efficient. The system has significantly reduced the cost of managing prisons and remand centres by minimizing relocation and transportation costs. On the other hand, the opponents contest that the system is dehumanizing in addition to turning the prisoner to a cost reduction. However, if the audio confidentiality and video clarity can be guaranteed, the prison video links will expedite the delivery of justice to victims of a wide range of crimes.

2.2 Security Implications

Inmates scheduled for a court session will be transported to court from Jaw Prison, Bahrain in total distance that is covered is ~100 KM. The fact that prisoners have only two points of transportation during court appointments/dates makes the transportation route predictable and is at risk of security threats such as ambush, assassination, attempts to free inmates and targeted attacks against security services. Ultimately risking the safety of both the officers and inmates being transported.

The transporting vehicles' safety is a concern that should be considered. Block (1994) stated that vehicles should be inspected not only for security integrity, but also for mechanical condition. Fluid levels, drive belts, tires and communication equipment should be inspected by the transporting officers (Block, 1994). Such practices are important to the effective operation of the transportation vehicles and costs the Ministry of Interior in the Kingdom of Bahrain an estimated 200 BHD per vehicle per month.

The government of the UK as well as the Department of Constitutional Affairs assert that the system of video links is secure and cannot be interrupted by intruders, especially hackers (Bachelard, 1994). Similarly, Farrington (1992) asserts that all prisons in the US have video link facilities that provide at least one courtroom and two briefing rooms where the solicitor can hold a conference with the defendant, before and if required, after the hearing. Although both Farrington and Bachelard refer to composite video technology, they both assert that video conferencing technology is a useful tool that can be utilized to support judicial/legal proceedings.

The prison video links have made the prison a safe environment to work in for both men and women (Quirk, Lelliott, & Seale, 2006). It is a well-known fact that the prison environment is not a safe environment for prison workers, especially female employees (Steiner & Wooldredge, 2016). The prison video links minimize relocation of inmates who may pose a threat to the prison staff. The prison staff providing the help do not have to endanger their lives by being physically present when interacting with the prisoners (Clare Kearney & Liza Sellen, 2013). Additionally, the new visitation system allows proper utilization of the limited man power available to run jails, remand centres, and prisons (Hancock & Jewkes, 2011). This is in addition to preventing the perennial or illegal items between the inmates and their visitors.

Quirk, Lelliott, & Seale (2006) praised the traditional mode of hearings, stating that it ensured that the defendant was rarely in contempt of the court. Additionally, the new system is accused of reducing defendant's respect for the criminal justice system (McKay, 2015). For example, McKay (2015) stated that when connected to a courtroom via a video link, the defendant is more likely to walk out or shout, in addition to the risk of making it easier to disconnect mentally when separated by screens. Moreover, the right to a fair trial may be undermined if the defendant does not understand the prison video link process.

2.3 Resources Expenditure

One of the main benefits of prison video links in the UK is significantly lightening the prison's budgetary burden. Furthermore, video calls do not require the inmates to be closely guarded and that reduces staffing costs (Larson, 2010). This is besides the fact that the video links redefine the experience of confinement for prisoners and their family members.

The procedure of transporting inmates to court is a process that involves not only the prisoner transport vehicle, but it includes a motor convoy. Consisting of more than two cars to insure the safety of the convoy, this costs the Ministry of Interior money for gas and staffing. Considering gas and the number of vehicles involved in the convoy, the vehicles are also due to maintenance every so often because of the distance it covers that is estimated to be ~100 KM moving to court and back from Jaw Prison. The amount of money spent on transportation of inmates can be reallocated to other areas of concern for the Ministry of Interior.

Each convoy of inmate transportation includes at least two police personnel that accompany the prisoner to court. The system now is one police personnel per inmate, but for some inmates it goes up to two employees. Relocation of human resources after the technology is up and going

will ensure the prison services to be better and fully safe. Prison usually has a problem with shortage of staff because of the personnel accompanying the convoys that transport prisoners. Reallocation of prison staff would help the prison system functionality and the Ministry of Interior as a whole.

Although the system has many benefits, given that the prisoner can participate in the court proceedings from their prison. However, the technology should be improved to enhance video and audio clarity (Quirk, Lelliott, & Seale, 2006). Additionally, consultations between the inmate and the defense should remain confidential, hence efforts should be made to address audio permeability in courtrooms. The constant development of video conferencing technology means that requirements for more clarity in both audio and video feeds utilized, reliability, and security will encourage the industry to innovate better solutions (Feigenson & Spiesel, 2011).

When visitors are physically present inside a prison or jail, they are not charged any fee to see their loved ones (Hanson, 1996). However, remote visitations are costly because the call is billed per minute in addition to account-deposit fees and set-up fees. Since the system is provided by private technology companies, the inmate could possibly be turned into a source of revenue for the shareholders of these companies.

Moreover, the approach allows families to stay connected to family in order to build a system of support that will be waiting for them when they leave prison. The system is not only cost-effective, but also time-efficient.

Inmate-communication services have become a very lucrative business in recent years due to the widespread adoption in Crown Courts and Magistrate courtrooms. Some of the companies providing prison video links have contracts with prisons and jails to limit or eliminate on-site

visitation in order to force more people to use remote visitation, which are costly. For example, the Salem County Jail in New Jersey charges US\$11 per 20 min (Tartaro & Levy, 2017).

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2.4 Legal Implications

The criminal code of conduct law in Bahrain Chapter (2) article (199) states that

“An accused involved in a misdemeanor or felony that is punishable by a prison sentence that the law requires its immediate execution when the judgement is handed down, shall appear in person.”

This article places a restriction on the judicial branches ability to conduct off-site sentencing. As such, applying this technology lawfully requires that articles in the current code of criminal procedure be adjusted to account for the advent of video-conferencing and ensure that the law recognizes it as an acceptable sentencing procedure.

One example would be how the implementation of the prison video link system in UK Crown Courts and Magistrate Courtrooms would not have been possible without legislations to embed the practice in the constitution.

In this instance, the government passed two legislations to avoid infringing on the prisoner's right to fair representation. According to Section 57 of the Crime and Disorder Act 1998, pre-trial proceedings involving a defendant placed in custody can be conducted via a live television link between the prison and the court (Mulcahy, 2008). By doing so, the legislation effectively provided a cost-effective and time-efficient alternative to in-person prison visitations. Meanwhile, the Criminal Justice Act 2003 added that courts had powers to use technology across a wide range of hearings and participants.

Some of the legal challenges invoked by the implementation of the prison video links include audio permeability, intruding on the legal process, framing the prisoner in the context of their detention, and affecting prisoner's comprehension and participation (Schept, 2013).

With regard to audio permeability, a soundtrack of incarceration may infiltrate into the prisoner video studio as well as the remote courtroom. This may compromise the level of confidentiality between the defence counsel and the client. It also may provide the prosecution with unwarranted access to privileged information shared by the client with the defence counsel. On the other hand, the soundtracks that may filter through the prison video studios and permeate the remote courtroom create an auditory aura that often heightens the prisoner's detained status. In essence, the prison video links have opened the realities of the prison environment to the jury, which may adversely influence their verdict. Meanwhile, intrusive sounds filtered through the prison video links from the courtroom may disorient some prisoners and compromise their ability to actively engage in their legal proceedings. As such, one of the concerns that has been raised about prison video links is undermining the defendant's right to a fair trial (Schept, 2013).

In essence, video-conferencing can jeopardize a defendant's rights and undermines trust in the justice system. In most cases, defendants using virtual court hearings often find it difficult to hold confidential consultations with their lawyers. They often become disconnected from the proceedings in case the remote connection fails, which is a common occurrence (Hancock & Jewkes, 2011).



3 Research Methodology

In order to explore the feasibility of video-conferencing technology as a communication tool in Bahraini Courts a number of specific methodological approaches across multiple strands are needed:

1. Interviews with various officials

- The Code Of Criminal Procedures: Legislative Decree No.(46) of the year 2002 articles 199 and 218, will be discussed with a lawyer to evaluate the legality of video-conferencing technology as a communication tool in Bahraini Courts.
- Interviews with Judge Essa AlDaraj, the Director of Communications Lt. Col. Abdulaziz AlSabagh, and key personnel from the General Directorate of Reformation and Rehabilitation will serve as expert evaluations of the current prisoner transport methodology and to examine their cost, security, and safety implications.

2. Case study

- A case study will be presented to support the claim of the safety of prisoners and police personnel.

3. Cost benefit analysis

- A comparison will be done between the price of the technology and the price of the current prison transportation from data gathered from the General Directorate of Reformation and Rehabilitation and a price list from Cantock Corporation Limited.



4 Results

4.1 Interviews

The law in Bahrain doesn't allow the usage of the audio and video through court and public prosecution. The legal changes that will help apply such technology will be a definitive and will not be objected by defense lawyers. Law abides by crime. However, law abides by technology and the procedure of the law.

According to the Director of Communication Lt. Colonel Abdulaziz AlSabagh, he stated that the system would cost the Ministry of Interior far less prior to even seeing any figures. The system as he claimed would benefit the country as a way to implement technology to achieve the country's goal to be a contemporary state.

Judge Essa AlDaraj stated that many legal court cases in Bahrain get postponed because the accused refuse to appear in court. If the prisoner refuses to go to court, he is asked to sign a paper that is later sent to the judge to continue proceeding without him present. The paper arrives later than court schedule which in the case of the judge he doesn't receive the rejection to be present paper and has no other option but to postpone. Judge Essa also stated that convoys mostly don't

arrive on the specific court time. He also added that this technology will help the court in the process of proceeding.

Discussing with the Director of Communication Lt. Colonel Abdulaziz AlSabagh, he stated that the prison video link could be implemented in four stages. The first stage would be linking Jaw Prison with the court. The second stage would be linking the Dry Dock detention centre with the court. The third stage would be linking the women prison centre with the court. The final stage would be linking all police stations to court. By doing so, all police detention centres and prisons would be linked to court and therefore eliminate the transportation convoys. The technological aspect of applying this system would be done using fiber optic microwave cables to transmit audio, video, and data.

Additionally, discussing the implementation of this system with the Director of Communication Lt. Colonel Abdulaziz AlSabagh, he personally vouched for the system and to implement new technology to the Ministry of Interior and Kingdom of Bahrain as a whole. He discussed the security of the link once it has been done and the difficulties to be overcome.

Key personnel that were interviewed from the General Directorate of Reformation and Rehabilitation, explained that 3500 and 3526 Convoys were deployed for prisoner transportation to and from courts in the years 2016 and 2017, respectively. Additionally, monthly convoy deployments contained vehicles ranging from 6 to 22, with an average of 15 vehicle deployments per convoy when extrapolated over a 12-month period.

Discussing with a lawyer the video conferencing technology and the legality of applying it within court rooms in Bahrain, the lawyer stated that every procedure must have a legal foundation. Without proceeding in a legal way, the whole proceeding will be illegal. Therefore,

the usage of audio and video systems in the courts of Bahrain has to have legal support initially. By legal support he means the current law must change or that articles have to be adjusted to meet the legal use of audio and video technology in court rooms.

Articles 199 and 218 literally state that the accused is required to be in the court room in person.

Therefore, alternative of appearing in person, audio and visual technology can be used in the court rooms of Bahrain shall be added in the criminal code of procedures to legally continue with the court procedures. The lawyer added, in general, the video conferencing calls must be recorded and saved in the court documents.

Judge Essa Aldaraj once told about the technology study was excited and enthusiastic to share his thoughts. Judge Essa stated that if this technology is implemented it would save us a lot of time and many cases would have their judgment pronounced. Judge also stated that the implementation of this technology will not only save time and money for the Ministry of Interior, it would also save money for the system. Implementing this technology would include the safe transaction of papers and would save paper and ink printed on official court documents.

4.2 Case Study

On the 26th of February 2017, four Bahraini policemen were wounded in a bomb attack near the village of Jaw where the prison is located. The bus transporting the prison staff to their post was targeted by a terrorist attack. The terrorist attack occurred on the exact same route that prisoner convoys travel regularly. The safety of the prison guards and prisoners that are at risk is

paramount. Therefore, the prisoner video link is safer than transporting the prisoners via convoys to courts.

Transportation of inmates is an issue of safety and security. Therefore, applying a technology that does not require the transportation of inmates will reduce the amount of safety concerns.

4.3 Convoy cost analysis

Table 1 - Camera Price

Picture	Item No.	Resolution	Solution	Price	Specifications
	IPCDB5XHP200	2M AF (1080P)	IMX327 + Hi3516C (H.264/H.264+) (H.265/H.265+) 2.7-13.5mm 5X AF	60 US\$	1/2.8" SONY Starvis Back-illuminated CMOS Sensor HISILICON Hi3516C, WDR; Super Starlight Internal POE +3USD Main Stream: 3MP@15fps/1080P@30fps ; 3MP HD Lens, With IR-CUT 2.7-13.5mm Motor Zoom Auto Focus Lens

The court rooms in Bahrain that deal with criminal cases are a total of 11. If we would install 3 cameras in each court, we would be installing a total of 33 cameras. According to Cantonk (guangzhou) Corporation Limited in China (2018), a price quotation has been acquired and the price for a camera is 60 USD as shown in Table 1. The total estimated cost for the supply of the cameras is 1,980 USD, which is equivalent to 746 BHD. Items excluded from the cost analysis are installation and maintenance, since both would be under the scope of the Communication Department within the Ministry of Interior.

Table 2 - Price of fuel Consumption

Car Module	Nissan
Year	2012
Engine Capacity	V8
Route Distance	Est. 100 KM
Average Time Req.	Approx. 6 hours
L/km	0.3 Liters
Avg. Fuel Consumption	30 Liters
BHD per gas liter	0.200 BD
Total Estimate for fuel consumption car in convoy	6 BD

Table 2 illustrates numerous characteristics that match the cars that typically travel from Jaw Prison the courts and back, along with the estimated distance traveled and the fuel consumed, given that these values are not static and depend on numerous environmental / contextual factors, all values were increased by 10% to reduce the margin of error.

Table 3 - Calculations

Convoy Data			Mean
Convoys Per Year	2016	3,500	3513
	2017	3526	
Vehicles Per Convoy	Small Convoy	6	14
	Average Convoy	15	
	Large Convoy	22	
Personnel Costs			Total (BD)
Salary Per Vehicle	Average Salary Per/hour	1 BD	18
	Average time per convoy	6 Hours+	
	Average Salary per Staff Member	6 BD	
	Number of Police Staff per Vehicle	3	
Fuel Costs			Total (BD)
Daily Fuel Cost	Per Vehicle		6
Vehicle Costs			Total (BD)
Daily Vehicle Cost	Calculated Maintenance	7	15.5
	Calculated Cost	8.5	

4.3.1 Convoy Data

In both 2016 and 2017, a total of 3,500 and 3,526 police convoys left Jaw prison to go to court and back, respectively. The number of vehicles in each convoy differs from time to time, at minimum it can be only 6 vehicles, sometimes its 15 vehicles, and a maximum of 22 vehicles depending on the time of the year. The mean value of the varying number of vehicles is calculated as: $(6+15+22)/3=14$.

4.3.2 Personnel Cost

The data gathered from the General Directorate of Reformation and Rehabilitation key personnel is the number of police convoys in the fiscal years 2016 and 2017. Calculation have been made for the estimate salary for police personnel per hour by dividing the total salary by 720 hours (monthly) which was 1 BD per/hour. The Salary per hour was then multiplied by the estimate of hours the convoy takes which is 6 hours, giving us a total of 6 BD per staff within each convoy.

4.3.3 Fuel cost

The estimated fuel consumption for a police car within a convoy is 30 liters. At the time of writing the price for the liter of high-octane gas is 0.200 BD. Which leads to an estimated 6 BD per car within the convoy. This figure when multiplied by 14, which is the mean number of cars per convoy, brings the total fuel cost of prisoner convoys to an average of 18 BD per vehicle.

4.3.4 Vehicle Cost

The price for a fully equipped police vehicle is approximately 25,000 BD. The average life-span of police vehicles is estimated at 8 years of service. Assuming a maintenance cost calculated as 7 BD per day, and the average service life mentioned earlier, and the total cost of operation for a

vehicle of approximately 8.5 BD per day, the total daily vehicle costs adds up to approximately 15.5 BD.



4.3.5 Conclusion

Table 3 illustrates the following financial commitments:

- Cost implication of a fully equipped patrol car is approximately 15.5 BD per day.
- Salary of police staff within each vehicle is approximately 18 BD per day.
- Fuel cost per vehicle is approximately 6 BD per day.
- This adds up to $15.5 + 18 + 6 = 39.5$ BD per vehicle daily.
- The number of convoys (14) multiplied by the daily vehicle costs gives us 553 BD per convoy daily.

The annual prisoner transport expenditure is calculated as: 3513 (Convoys) x 553 (Daily Convoy Cost) = **1,942,689 BD.**

As illustrated in table 1, the price for the supply video conferencing system to all criminal courts, with the exclusion of maintenance and installation was quoted at 746 BD. This cost analysis has demonstrated that the cost implications of investing in video-conferencing technology are orders of magnitude lower than current annual prisoner transport expenditure.



4.3.6 Excluded Parameters

Ideally, the cost of prisoner transport would be calculated with all factors taken into account, and all data would be aggregated to compare it directly with the cost implications of video-conferencing technology.

However, numerous processes inherent within prisoner transport procedure in Bahrain such as custody arrangements, supporting directorates, police aviation etc. necessitate a further analysis of the financial records to identify all extraneous factors and account for them, to ensure that any deviations in the calculation that they might cause are not significant.

For example, the process of the prisoner convoy that leave prison to go to court is accomplished as a joint effort between the prison services, Governorate police, and Special Security Forces. As such, there are many police officers from different branches of public security that coordinate to ensure successful prisoner transportation tasks.

The police districts in Bahrain are divided into 4 geographical areas in relation to the four governorates. Namely, the Capital Governorate, Northern Governorate, Muharraq Governorate and the Southern Governorate.

When a police officer from Muharraq Governorate arrests a suspect, they are processed to the Public Prosecution and then are assigned a date to appear in court. Following sentencing and incarceration, any further appearances in court are then accomplished via prison convoy.

However, this process necessitates the arresting police department's involvement in both transport and custody at all stages of judicial proceedings. Furthermore, each Police Governorate is obligated to assign two police officers as escorts within the returning convoy.

Another example is the Hizballah Bahrain case, wherein 111 accused are accompanied by 222 staff from the department that arrested them which in this case was The General Directorate of Criminal Investigation and Forensic Science, along with the large motor convoy.

Given these varying factors, the statistics that serve as the basis of the cost analysis would only be accurate when looking at the aggregate data, but further analysis into procedures and past circumstances suggests that the cost implication can vary significantly depending on the situation. As such the total estimate number of police staff that are working in involvement with the convoys will undoubtedly differ and are consequently excluded from this research.

5 Discussion

The aim of this report was to establish a high degree of probability, the feasibility of implementing a video conferencing technology as a placeholder and/or potential alternative to the current methodology of in-person judicial proceedings. Care has been exercised to ensure that the scope of the feasibility focuses on key determining factors.

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The literature review has demonstrated the potential viability of this technology and its suitability from financial, security, and legal aspects. The claim of feasibility was then scrutinized based on these key determining factors. The results of the cost-benefit analysis prove that there is potential for significant financial savings when adopting such a methodology versus the traditional method of physical transportation, which carries with it financial and human resource allocations that would otherwise be unnecessary.

The legal precedence presented in section 4.1 of this report, namely articles 199 and 218, highlighted legal barriers and/or grey areas that require further consultation with the legislative branches within the MOJ as part of a collaborative effort towards implementation. The case study identified potential security weaknesses inherent in the current prisoner transfer and attendance policies and procedures.

While these findings are not conclusive, they have established clear incentives that are directly in-line with the initiatives and directives put forth by His Excellency Minister of Interior Lt-General Shaikh Rashid bin Abdullah Al Khalifa, and this report has endeavored to objectively arrive at the conclusion that video conferencing technology has the potential to be a useful tool to assist the judicial process and at the same time considerably reduce costs for the MOI in addition to making Bahrain being a regional leader on this front in the Middle East.

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Page 26

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