BYOD App Preferences of the City Hall of San Fernando

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Abstract— This is a study designed to determine the suitability and willingness of the City of San Fernando to go BYOD and is based on previous study of the researcher entitled "BYOD: Connectivity Option for Alaminos Municipal Hall". This study was enhanced to determine if San Fernando Municipal Hall is ready to implement BYOD with all the advantages it offers in terms of mobility, cost, technology familiarity, flexibility, and agility; and if they if they are willing to adopt this innovation in their workplace. The previous findings of the study trigger another query whether other municipalities are open to this innovation. Thus, the research came across with a follow up study but this time it sought to determine the suitability and willingness of the City of San Fernando to go BYOD. This research adopts the same methodology and questionnaire from the previous study. Previous research did not tackle on existing IT literacy and capability of the municipality. But for this research, specifically it aims to answer the following questions: (1) What is the existing IT literacy and capability; (2) What are the factors that the municipality will consider in implementing BYOD; (3) What are the preferred BYO devices in terms of a. cost, b. specification, c. features, and d. technical support; (4) What are the potential benefits of using BYOD in the workplace compared to traditional IT; and (5) What is the significant difference between BYOD and traditional IT as perceived by employees. The findings are aligned with the previous study made by the researcher. This means perception of both cities is the same in terms of BYOD adoption and connectivity options. Based on the findings, security is the most important factor that needs to consider in the adoption of BYOD as represented by the 100% perception of the respondents both in San Fernando and Alaminos. There are many criteria wherein the two municipalities were different in terms of frequency and percentage such as Laptop as device issued by employer (Alaminos – 100% while San Fernando – 90%); perception if company ensure they comply with specific guidelines in using their personal device(s) for work purposes (e.g., no personal photos, limited app downloads) (Alaminos – 66% while San Fernando – 60%); Lastly, based from the t-test output there is significant difference between BYOD and Traditional IT along mobility, cost, technology familiarity, flexibility, and agility.

Index Terms—BYOD, Consumerization of IT, La Union, LGU (Local Government Unit)

I. INTRODUCTION

BYOD—Bring Your Own Device—is becoming a reality of office life these days. It's a natural consequence in a world where people are bringing iPads, iPhones, Androids and Blackberrys to work [5].

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According to Gali etal (2014), in his research entitled "BYOD: Connectivity Option for Alaminos Municipal Hall", employees were also bringing their personal devices such as laptop, smart phone, and tablets for work purposes which they perceived as an innovation in the workplace for them to work effectively[1]. This advantage that goes along in the adoption of BYOD, it has brought forth real challenges for companies as IT departments begin to lose the absolute control they once enjoyed in the enterprise. Some organizations still question if BYOD is just a passing fad, IDC believes that BYOD is the new norm of enterprise computing. In fact, BYOD represents the emerging phase of the enterprise mobility model that has the potential to truly transform the way people and enterprises work in the coming years. As the hype of BYOD continues to build, many companies are approaching mobility in a reactionary fashion. This means organizations have been scrambling to find point solutions that can manage the influx of personal devices in their environment. However, what BYOD and enterprise mobility enable for the enterprises are far beyond just maintaining the status quo of enterprise IT. A holistic and strategic approach to BYOD and enterprise mobility can yield measureable business and operational improvements within the enterprise, at the same time creating sustainable competitive advantages for the organization [2]. According to Gali etal (2014), the value of BYOD and enterprise mobility is not something that can be accomplished with just single-point solutions. As it reflects in his previous research wherein there are respondents who are not yet using their personal device in the workplace. The journey of BYOD and enterprise mobility nirvana is long and challenging, and it cannot be taken on alone. For the enterprises, the first step is to understand the specific benefits mobility can bring to their organizations and therefore can facilitate the development of a holistic mobility strategy. Instead of utilizing point solutions to address specific issues, a platform approach is more suitable because it can grow with organizations as their needs evolve. According to Gali etal (2014), when it comes to implementation, organizations need to consider scalability and flexibility of their mobility platform while grounded by the underlying need for security. Yet, many companies have found security to be a complex and costly undertaking. This is because mobility security has multifaceted requirements that extend to devices, networking, content, and usage patterns. Although complex, security plays an important part in designing a holistic mobility platform based on an open ecosystem which allows the end users to fully utilize whatever devices they are using. Moreover, Alaminos Municipal Hall respondents prefer BYO device to use along cost, specification, features, and technical support is PC or Laptop. There are 73% of the respondents who were using their owned smartphones regularly for work, either in the workplace or from home or on the go. Along with this, 46% of the

respondents were extremely likely to be provided with IT support. Their request for support from their workplace can be provided by the ITS department who usually help them troubleshoot their personal devices to maximize their productivity. With this, they are willing to allow their IT Department to managed their devices in exchange for support; and they also agree that their devices be manage by IT department in exchange for higher allowance - about Php500 per month. It was also found out that the advantage of BYOD over Traditional IT emphasized that BYOD is preferred over IT because of its functionality that makes them productive employees. Lastly, the respondents showed their willingness to adopt this innovation in their workplace as BYOD promises advantage in terms of mobility, cost, technology familiarity, flexibility, and agility. In line with these findings from the previous research, the researcher assumed that just like Alaminos Municipal Hall, other municipalities are also ready to face another ICT innovation and that is the BYOD. San Fernando Municipal Hall as it aims to become the premier capital city of Ilocandia should also experience this kind of workplace innovation. Thus, the researcher will determine if San Fernando is capable to adopt and implement this innovation. It might be the gateway to become the premier capital city of Ilocandia.

A. Research Question

The purpose of this study is to determine the suitability and willingness of the City of San Fernando to go BYOD. Specifically it aims to answer the following: (1) What is the existing IT literacy and capability; (2) What are the factors that municipality will consider in implementing BYOD; (3) What are the preferred BYO device in terms of a. cost, b. specification, c. features, and d. technical support; (4) What are the potential benefits of using BYOD in the workplace compared to traditional IT; and (5) What is the significant difference between BYOD and traditional IT as perceived by employees. It also aims to show that BYOD is a good option for City of San Fernando in the long term.

B. Significance of the Study

The following are the entities that shall be benefited in the study:

To the City Government. This serves as a good option for San Fernando La Union in the long term and that this will be a model for other towns. This study will serve the employees to become aware on the advancement of BYOD in their respective offices in order to improve productivity.

To the City Officials. The project study will serve as an example to both legislative and executive for future proposal developments that can be funded for improvement in the municipality.

To the Researcher. The study will be used to better understand BYOD preferences in local government situations.

To Future Researchers. The study will be used as a reference to other researchers for future studies. The study will give insights and motivates other researchers to review and enhance the status of similar projects.

C. Scope of the Study

This is a new study using a larger municipality in which focus is placed on the existing IT literacy and capability of the municipality as well as the specific factors that municipality will consider in implementing BYOD; the preferred BYO device in terms of a. cost, b. specification, c. features, and d. technical support; the potential benefits of using BYOD in the workplace compared to traditional IT; and the significant difference between BYOD and traditional IT as perceived by employees. This study does not seek to recommend a specific implementation for a municipality's data networking infrastructure, but rather on how a municipality's data network can be designed to improve data security factors relative to the use of personally owned mobile handheld devices, laptops, or tablets by its users.

II. METHODOLOGY

BYOD already exists in several established theories which have been used to investigate certain aspects of technology utilization. The researcher used the technology acceptance model (TAM). In this model the derivatives were evaluated. The Technology Acceptance Model represents a model which makes declarations about whether a person is going to use a technology or not [1]. The researcher adopted this model since it was proven as an effective model as this has been used in the research of Gali etal (2014). Figure 1 shows the Technology Acceptance Model.
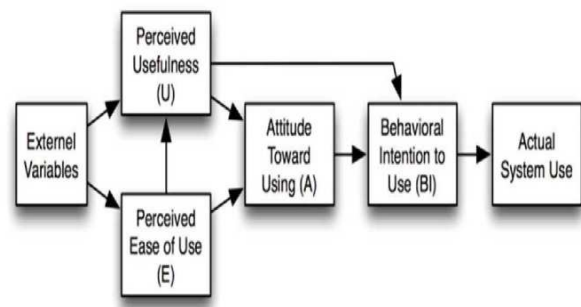

Figure 1: Technology Acceptance Model

The researcher utilized structured interview wherein he prepared questions which were asked from the respondents. Likewise, the researcher listed all the questions related to the current process in the municipality and existing IT literacy and capability. Through this, the researcher had a better understanding on the business process and readiness of the City of San Fernando La Union to adopt BYOD. The significant difference between BYOD and traditional IT as perceived by employees was conducted through the use of questionnaire and results was analyzed through the use of statistical tool, specifically using frequency count, percentage, average weighted mean, correlation approach, and t-test.

III. RESULTS AND ANALYSIS

The questionnaires were floated to 20 employees of the City Hall of San Fernando La Union, specifically City Planning and Development Office (CPDO) and Management Information System Office (MISO), the departments where employees are technically inclined with Information Technology. A part of this questionnaire was based from the questionnaire used by Gali etal (2014) in his BYOD study for Alaminos City Hall. Below are the findings:

A. The existing IT literacy and capability of the municipality

In line with the vision of the City of San Fernando, La Union (CSFLU) to become the premier capital city of Ilocandia by 2020, the City Government of San Fernando spearheaded by the Information Technology Section will capitalize on Information and Communications Technology (ICT) to facilitate the execution of the city's strategy with the presence of iSanFernando. iSanFernando was designed to address interconnectivity to all city databases adapting the clustering approach. An estimated budget of Php 10M until 2016 has been allocated by the city as the office tries to increase the re-engineered integrated internal manual process from 0 to 3 last December 2013.The strategy will improve and enhance the systems, processes and procedures for an effective and more meaningful governance system. At present, their IT experts together with the trainees in partnership with the academe, spending 2 hours daily for system analysis and designs and completing 2% of the integrated system components of the Integrated Systems Strategic Plan (ISSP) weekly. Information Systems (IS) such as the Finance Management IS, Personnel Management IS, Barangay IS version 2 and the Procurement Monitoring and Inventory Management IS started its development in 2012 along with the other IS such as Integrated Strategy Management System (ISMS), Treasury Operations Information and Management System yet to be analyzed, designed and developed on the following months. There are 16 active IS, plus 6 systems established and enhanced by in-house development. With the presence of the ICT Council which aims to promote foreign and local investments in the ICT development partnering with the city government to assist in attracting investors to venture into an IT-BPO industry and the academe sector in human resource development, escalation of ICT in the city will be felt by external stakeholders. Further, the ICT of the City of San Fernando was recognized as a National Finalist for the Jesse Robredo E-Gov awards, Top 3 in Luzon and Top 1 in the entire Ilocos Region in 2012 [4]. With these accomplishments and initiatives of the administrators and staff of the City of San Fernando, the researcher assumed that they are ready to face another ICT innovation and that is the BYOD. This is to harness and improve the delivery of efficient and effective services among its people. The summary of the IT literacy and capability of the municipality of San Fernando was aligned to the previous study of the researcher. Table 1 shows the IT literacy and capability of the municipality of San Fernando versus Alaminos.

Table 1: IT Literacy and Capability of the Municipality of San Fernando versus Alaminos

	Alaminos	San Fernando
ICT Infrastructure	/	/
Strategic ICT Plan	/	/
Computer Literacy Program	/	/
Municipal Automated System	/	/
Internet Services	/	/
Eco-tourism Program	/	/
ICT Centers	/	/
Software and Applications	/	/

In terms of IT literacy and capability, both San Fernando and Alaminos are implementing new technologies in ICT. Thus, they can be considered as capable of adopting new innovation in ICT on their workplace and that is the BYOD.

B. Factors that Municipality will consider in Implementing BYOD

There are eight (8) identified factors needed to consider in adopting BYOD in municipalities. These are control, public app store, policy compliance, monitor usage, security, encryption, devices outside of the firewall, and jail broke devices. Table 2 shows the factors that the employees of Alaminos and San Fernando believed to be important.

Table 2: Factors Needed to Consider in Adopting BYOD

Factors	Alaminos	San Fernando
Control	60%	55%
Public App Stores	6%	10%
Policy Compliance	53%	50%
Monitor Usage	46%	35%
Security	100%	100%
Encryption	40%	30%
Devices Outside of the Firewall	20%	20%
Jail broken Devices	33%	25%

Based on the findings, security is the most important factor that needs to consider in the adoption of BYOD as represented by the 100% perception of the respondents both in San Fernando and Alaminos. Thus, this only implies that security is an important factor that is needed to consider in the adoption of BYOD in municipality of San Fernando La Union and Alaminos.

C. Preferred BYO device in terms of cost, specification, features, and technical support

Respondents were asked on their prefer BYOD in terms of cost, specification, features, and technical support. Despite that Table 3 shows different percentage, it was still found out that both Alaminos and San Fernando prefer laptop/PC as Bring your own device. This means that the respondents believe that laptop in terms of cost, specification, features, and technical support needs to be considered in the workplace for them to work efficiently and effectively.

Table 3: Prefer BYOD in Terms of Cost, Specification, Features, and Technical Support

	ALAMINOS				SAN FERNANDO			
	C	S	F	TS	C	S	F	TS
	%	%	%	%	%	%	%	%
Laptop/PC	83.33	83.33	83.33	83.33	52.63	52.63	52.63	52.63
Tablet	11.11	11.11	11.11	11.11	21.05	21.05	21.05	21.05
Smartphone	5.56	5.56	5.56	5.56	26.31	26.31	26.31	26.31
Non-smartphone	0	0	0	0	0	0	0	0

Legend: C- cost, S- specification, F- features, TS- technical support

D. Potential Benefits of Using BYOD in the Workplace Compared to Traditional IT

It was found out the employers both in Alaminos and San Fernando municipality prefer to issue laptop to their

employees rather than tablet or smart-phones. Table 4 shows the feedback of the respondents on devices issued by employers to employee.

Table 4: Devices issued by employers to employee

	ALAMINOS	SAN FERNANDO
Laptop/PC	100%	90%
Tablet	13%	5%
Smartphone	6%	5%
Others	0%	0%

In the municipality of Alaminos there is one employee who was released with both laptop and smartphone whereas in San Fernando only one device can be released. The respondents were also asked if how much choice they had in the most recent work device issued from their employer. Findings show that company provided them with a specific brand and they do not have input into what brand they should receive. Table 5 shows the feedback of the respondents on how much choice they had in the most recent work device issued from their employer.

Table 5: How Much Choice They Had in the Most Recent Work Device Issued From Their Employer

	ALAMINOS	SAN FERNANDO
My company provided me with a specific brand. I did not have input into what brand I received.	80%	75%
I specifically asked for a particular brand and was issued that brand	7%	15%
I was not issued this device	13%	10%

Based on the findings despite of the big number of employees were issued with laptop still there are 13% who were not issued with any device in Alaminos while only 10% for San Fernando. There were 7% employees of Alaminos who specifically asked for a particular brand and was issued that brand while 15% for San Fernando. This makes San Fernando on the edge than Alaminos City. Lastly, majority of the respondents both for Alaminos and San Fernando perceived that that company provided them with a specific brand and they do not have input into what brand they should receive. The respondents were also asked if it is common for other employees in their workplace to use their personal devices (e.g., phone, laptop) for work purposes. Table 6 shows the commonality on the use of personal devices (e.g., phone, laptop) for work purposes.

Table 6: Commonality on the Use of Personal Devices (E.G., Phone, Laptop) for Work Purposes

Commonality	ALAMINOS	SAN FERNANDO
Extremely common	33%	50%
Somewhat common	26%	20%
Somewhat uncommon	20%	15%
Not at all common	20%	15%
I'm not sure/haven't noticed	0%	0%

Respondents' feedback stated that employees in San

Fernando are more aware that employees were using their personal device for work purposes than in Alaminos. The respondents were also asked if what personally owned devices they use regularly for work, either in the workplace or from home or on the go. Alaminos respondent's feedback stated that 73% of them used their owned smartphones regularly for work, either in the workplace or from home or on the go while San Fernando respondent's feedback stated that 55% of them used their owned Laptop/PC regularly for work, either in the workplace or from home or on the go. Table 7 shows what personally owned devices they use regularly for work, either in the workplace or from home or on the go.

Table 7: Personally Owned Devices That Respondents Regularly Used For Work, Either In The Workplace Or From Home Or On The Go

Devices	ALAMINOS	SAN FERNANDO
Laptop/PC	0%	55%
Smartphone	73%	25%
Tablet	0%	0%
Non-smartphone	27%	20%
I'm not sure/haven't noticed	0%	0%

This only shows that San Fernando respondents are more familiar on laptop as a personally owned device and they find comfort in using it for work purposes in the workplace than any other devices whereas Alaminos respondents who are familiar on smartphone. This is the only finding that makes San Fernando respondents differ from Alaminos respondents. San Fernando respondents are on laptop/PC while Alaminos are on mobile. In terms of the frequency of usage of this personally owned device in their workplace, both respondents from Alaminos and San Fernando often used their personally own device. Table 8 shows respondents feedback.

Table 8: Frequency of Usage of Personally Owned Device in Their Workplace

	ALAMINOS	SAN FERNANDO
Often	46%	50%
Occasionally	26%	25%
Only in Emergencies	13%	15%
Never	13%	10%

In terms of the frequency of usage of this personally owned device at home both respondents from Alaminos and San Fernando often used their personally owned device. Table 9 shows respondents feedback.

Table 9: Frequency of Usage of Personally Owned Device at Home

	ALAMINOS	SAN FERNANDO
Often	66%	90%
Occasionally	0%	0%
Only in Emergencies	20%	10%
Never	13%	0%

Both Alaminos and San Fernando employees were often using their owned device at home as perceived by 66% for

Alaminos while 90% for San Fernando. There are 13% respondents in Alaminos who never used their owned device at home while in San Fernando all employees either often, occasionally or only in emergencies used their owned device at home. In terms of the frequency of usage of this personally owned device while on the road, 50% of the respondents in San Fernando often used their personally owned device on the road while there are only 33% respondents in Alaminos who perceived that they often used their personally owned device on the road Table 10 shows the respondents' feedback..

Table 10: Frequency of Usage of Personally Owned Device on the Road

	ALAMINOS	SAN FERNANDO
Often	33%	50%
Occasionally	27%	20%
Only in Emergencies	27%	20%
Never	13%	10%

Their request for support from their workplace can be provided by the ITS department since 75% of the respondents in San Fernando said that the IT department helps them troubleshoot their personal devices to maximize their productivity while there are only 66% respondents in Alaminos. Table 11 shows the respondents' feedback.

Table 11: The Support they Received for their Personal Device(s) that they Used for Work

	ALAMINOS	SAN FERNANDO
My IT department helps me troubleshoot my personal devices to maximize my productivity	66%	75%
MY IT department reluctantly helps me troubleshoot my personal devices	0%	0%
MY IT department does not help support any personal devices	0%	0%
I haven't asked/I don't know	34%	25%

The finding was aligned to the previous research of the researcher for Alminos City. Both employees in San Fernando and Alaminos City also perceived that their IT department helps them troubleshoot their personal devices to maximize their productivity. The respondents were also asked if they will allow their IT Department to manage their devices in exchange for support, 60% of the respondents agree both in San Fernando and Alaminos. Table 12 shows the respondents' feedback.

Table 12: Perception If They Will Allow Their IT Department to Manage Their Devices in Exchange for Support

	ALAMINOS	SAN FERNANDO
Yes	60%	60%
No	40%	40%

The finding was aligned to the previous research of the researcher for Alminos City. Both employees in San Fernando and Alaminos City are also willing to allow their IT department to manage their devices in exchange for financial support. The respondents were also asked if they will allow their IT Department to manage their devices in exchange for higher allowance, 60% of the respondents agreed both in San Fernando and Alaminos.. Table 13 shows the respondents' feedback.

Table 13: Perception If They Will Allow Their IT Department to Manage Their Devices In Exchange For Higher Allowance

	ALAMINOS	SAN FERNANDO
Yes	60%	60%
No	40%	40%

The finding was aligned to the previous research of the researcher for Alminos City. Both employees in San Fernando and Alaminos City are willing to allow their IT Department to manage their devices in exchange for support and higher allowance of about Php500 per month. The respondents were also asked if they are willing to allow particular BYOD features be installed in their device, 60% of the respondents agree both in San Fernando and Alaminos.. Table 14 shows the respondents' feedback.

Table 14: Perception If They Are Willing To Allow Particular BYOD Features Be Installed In Their Device

	ALAMINOS	SAN FERNANDO
Yes	60%	60%
No	40%	40%

The finding was aligned to the previous research of the researcher for Alminos City. Both employees in San Fernando and Alaminos City are also willing to allow particular BYOD features be installed in their device. After asking if they are willing to allow particular BYOD features be installed in their devices, they were also asked if what BYOD features they want to be installed. Respondents' feedback stated that BYOD features such as remote wiping of lost/compromised devices and IT support are BYOD features that the respondents are willing to be installed in their devices. Among the twenty (20) respondents' only one (1) was provided with cell phone allowance. They were also asked if the municipality applies any VPN or RSA Token, 60% of San Fernando employees say they don't while 46% in Alaminos. Table 15 shows the respondents' feedback.

Table 15: Perception If the company apply any (e.g., VPN, RSA Token)

	ALAMINOS	SAN FERNANDO
Yes	0%	0%
No	46%	60%
I don't know	54%	40%

The finding was aligned to the previous research of the researcher for Alminos City. Both employees in San Fernando and Alaminos City perceived that their employer is not

implementing VPN and RSA token. They were also asked if the company ensure they comply with specific guidelines in using their personal device(s) for work purposes (e.g., no personal photos, limited app downloads). The 60% respondents in San Fernando agree while 67% of the respondents in Alaminos. Table 16 shows the respondents' feedback.

Table 16: Perception If Company Ensure They Comply With Specific Guidelines in Using Their Personal Device(S) For Work Purposes (E.G., No Personal Photos, Limited App Downloads)

	ALAMINOS	SAN FERNANDO
Yes	67%	60%
No	13%	25%
I don't know	20%	15%

The finding was aligned to the previous research of the researcher for Alminos City. Many employees in Alaminos City perceived that the department ensures that they comply with specific guidelines in using their personal devices for work purposes than San Fernando. They were also asked if their employer employ a mobile device management system for their smartphone or tablet (e.g., they can lock your device remotely if it is stolen). The 75% of the respondents in San Fernando says there are no mobile device management systems for their smartphone or tablet while 67% of the respondents in Alaminos. Table 17 shows the respondents' feedback.

Table 17: Perception If Their Employer Employ A Mobile Device Management System for Their Smartphone or Tablet (E.G., They Can Lock Your Device Remotely If It Is Stolen)

	ALAMINOS	SAN FERNANDO
Yes	0%	0%
No	67%	75%
I don't know	33%	25%

The finding was aligned to the previous research of the researcher for Alminos City. Many employees in San Fernando perceived that their employer does not employ a mobile device management system than Alaminos. There are no security software and mobile management system installed by ITS department in the respondent's smartphone or table but they are willing to comply with specific guidelines in using their personal device(s) for work purposes. The respondents were asked if which they are comfortable doing in exchange for being able to use their personal smartphone/tablet for work purposes. The 40% of the respondents from San Fernando are willing to allow the company to see which Apps they have downloaded while there are only 50% respondents of Alaminos who are willing to allow the company to see which Apps they have downloaded. Table 18 shows the respondents' feedback.

Table 18: Perception If They Are Comfortable Doing In Exchange for Being Able To Use Their Personal Smartphone/Tablet for Work Purposes

	ALAMINOS	SAN FERNANDO
Allow my company to see which apps I have downloaded	50%	40%
Allow my company to see which mobile sites I visit	11.53%	25%
Allow my company to track my location using my mobile device	11.53%	20%
None of these	26.92%	15%

Based on the findings majority of the employees from Alaminos and San Fernando are not hesitant to use their personal device for work purposes. Thus, this is a good indicator for employees adoption on the future implementation of BYOD policy. The respondents were also asked if why they use their own device for work purposes. The 60% of the respondents in San Fernando says they are more comfortable/efficient on their device than work device while in Alaminos there are 50% respondents, Table 19 shows the respondents' feedback.

Table 19: Reasons why Respondent's Used Their Own Device(s) for Work Purposes

	ALAMINOS	SAN FERNANDO
More comfortable/efficient on my device than work device	46%	60%
Convenience/Easier to access/More likely to have with me	27%	20%
I prefer one device for both personal and professional use	20%	15%
Don't need to learn a new system/machine	0%	0%
Prefer my technology, software, O/S (e.g., Mac vs. PC, Chrome vs. Explorer)	0%	0%
My employer doesn't supply me with a portable device so I use my own	6%	5%

The finding was aligned to the previous research of the researcher for Alminos City. Both employees from San Fernando and Alaminos City perceived that they are more comfortable or efficient on their device than work device. Thus, with BYOD they can work efficiently. There are many reasons for the respondents to use their owned devices for work purposes, 25% of the respondents in San Fernando prefer their own technology while in Alaminos it has 0%. Among the option that makes them similar is that there are 40% of the respondents in San Fernando says they prefer one device for both personal and professional use while there are 53% in Alaminos. Table 20 shows the respondents' feedback.

Table 20: Primary Reason Why Respondent's used Their Own Device(s) for Work Purposes

	ALAMINOS	SAN FERNANDO
Prefer my technology, software, O/S (e.g., Mac vs. PC, Chrome vs. Explorer)	0%	25%
I prefer one device for both personal and professional use	53%	40%
Convenience/Easier to access/More likely to have with me	13%	10%
More comfortable/efficient on my device than work device	13%	10%
Don't need to learn a new system/machine	0%	0%
My employer doesn't supply me with a portable device so I use my own	20%	15%

The finding was aligned to the previous research of the researcher for Alminos City. Both employees in Alaminos City and San Fernando prefer one device for both personal and professional use. The respondents were also asked if using their own device made their work/life balance better, 45% respondents from San Fernando says it made their work/life balance much better while there are only 40% respondents from Alaminos. Table 21 shows the respondents' feedback.

Table 21: Perception If It Made Their Work/ Life Balance Better

	ALAMINOS	SAN FERNANDO
Much better	40%	45%
Somewhat better	33%	30%
No change	27%	25%

This finding emphasized that both employees from Alaminos and San Fernando perceived that with BYOD their work will be better. Thus, they are open to the idea on the implementation of BYOD. The respondents were also asked if using their own device made them more productive as an employee, 55% respondents from San Fernando says they are much more productive while there are only 40% from Alaminos. Table 22 shows the respondents' feedback.

Table 22: Perception If Using Their Own Device Made Them More Productive as an Employee

	ALAMINOS	SAN FERNANDO
Much more productive	40%	55%
Somewhat more productive	33%	30%
No change in productivity	27%	15%

The result only shows that respondents perceived that with BYOD, they will become more productive in their workplace. Thus, emphasizing on the advantage of using BYOD in the work place. The respondents were also asked if does their own device affect the length of their workday, 60% of the respondents from San Fernando and 46% respondents from

Alaminos says it shortens their workday. Table 23 shows the respondents' feedback.

Table 23: Perception If How Using Their Own Device for Work Purposes Affects the Length of their Workday

	ALAMINOS	SAN FERNANDO
Lengthens my workday	27%	20%
My workday is the same as if I didn't use my own devices	27%	20%
Shortens my workday	46%	60%

This result emphasized on the advantage of using BYOD in terms of work around time. Respondents perceived that through BYOD it will shorten their workday. Lastly, the respondents were asked if what statement about using their own device they agree with, 60% respondents from San Fernando says they are happy with their company makes it possible to access company content on their personal device while 53% respondents from Alaminos says they are willing to use their own device for work because it saves time and makes their life easier. Table 24 shows the respondents' feedback.

Table 24: Statements about Using Their Own Device That Respondent Agree With

	ALAMINOS	SAN FERNANDO
I'm happy my company makes it possible to access company content on my personal device	47%	60%
I willingly use my own device for work because it saves me time and makes my life easier	53%	40%
I feel my company assumes and expects that I use my personal device.	0%	0%
I use my own device because my company doesn't provide me with the tools I need to best do my job	0%	0%
I feel my company should reimburse me for my usage of my personal device/data	0%	0%

The result emphasized on the respondents' reasons for them to embrace this technology innovation and implement it in their workplace. First, in BYOD their company makes it possible to access company content on their personal device. Lastly, they are willing to use their own device for work because it saves time and makes their life easier.

D. Significant Difference between BYOD and Traditional IT as Perceived By Employees

Based on the t-test output there is significant difference between BYOD and Traditional IT along mobility, cost, technology familiarity, flexibility, and agility. In BYOD, the business gets to take advantage of cutting edge technology without the pain and expense of a massive hardware refresh or software upgrade. Employees do not have to carry multiple devices or switch between personal and work devices. They feel more comfortable while working on personal devices, which improve their job satisfaction levels. Mobile services on employee-owned devices enable employees to collaborate in real time and efficiently execute tasks irrespective of their location or time zone. BYOD can act as an important tool for attracting and retaining talented people. Through BYOD, it

improved employee satisfaction and business agility. Table 25 shows the perception of the respondents.

Table 25: Significant Difference between BYOD and Traditional IT as Perceived By Employees

	Perception	ALAMINOS	SAN FERNANDO
1. Factors	Security	100%	100%
2. Preferred BYO device in terms of:			
2.1 Cost	Laptop	100%	100%
2.2 Specification	Laptop	100%	100%
2.3 Features	Laptop	100%	100%
2.4 Technical Support	Laptop	100%	100%
3. Potential Benefits of Using BYOD in the Workplace Compared to Traditional IT			
3.1 Reasons why Respondent's Used Their Own Device(s) for Work Purposes	More comfortable/efficient on my device than work device	46%	35%
3.2 Primary Reason Why Respondent's Used Their Own Device(s) for Work Purposes	I prefer one device for both personal and professional use	53%	40%
3.3 Perception If It Made Their Work/ Life Balance Better	Much better	40%	30%
3.4 Perception If Using Their Own Device Made Them More Productive as an Employee	Much more productive	40%	30%
3.5 Perception If How Using Their Own Device for Work Purposes Affects the Length of their Workday	Shortens my workday	46%	35%
3.6 Statements About Using Their Own Device That Respondent Agree With	I willingly use my own device for work because it saves me time and makes my life easier	53%	40%
4. Based from the t-test output there is significant difference between BYOD and Traditional IT along mobility, cost, technology familiarity, flexibility, and agility.			

Differences:

Despite the similarity of results of this research from the previous research on Alaminos Municipal Hall, there were results that made this research on San Fernando different. Table 26 shows the summary of differences:

Table 26: Summary of Differences

Differences	ALAMINOS	SAN FERNANDO
Personally Owned Devices That Respondents Regularly Used For Work, Either In The Workplace Or From Home Or On The Go	Smart phone	Laptop/PC
Perception If the company apply any (e.g., VPN, RSA Token)	I don't Know	No
Primary Reason Why Respondent's Used Their Own Device(s) for Work Purposes because they prefer their technology, software, O/S (e.g., Mac vs. PC, Chrome vs. Explorer)	0% Agree	25% Agree

This shows their differences in terms of the prefer personally owned devices that respondents regularly used for work, either in the workplace or from home or on the go, their awareness on the application of VPN and RSA Token, and if they agree that respondent's used their own device(s) for work purposes because they prefer their technology, software, o/s (e.g., Mac vs. PC, Chrome vs. Explorer). Thus, even though the two municipalities- Alaminos and San Fernando – have many similarities in terms of resources and BYOD capability they still have differences in the some perceptions. These differences, the researcher can still see the potential of BYOD adoption and implementation in San Fernando.

IV. CONCLUSIONS

In this paper, BYOD was presented application preferences of the city hall of San Fernando La Union. This research focuses on a wide range municipality. The findings emphasized on existing IT literacy and capability of the municipality in which the researcher perceived that the municipality is ready to face another ICT innovation and that is the BYOD. They are willing to consider BYOD as another ICT innovation in harnessing and improving the delivery of efficient and effective services among its people. Moreover, the study also focused on the factors to consider in the adoption of BYOD and it is security. This only emphasized that because of security issue, it makes an organization hesitant to implement BYOD. Moreover, the prefer BYO device to use along cost, specification, features, and technical support is PC or Laptop. This only emphasized that respondents prefer to use device which is very useful for data processing such as Laptop or PC, these are also the frequent type of device that employer provides to employees.

There are 50% of respondents who perceived that it is common for other employees in their workplace to use their personal devices (e.g., phone, laptop) for work purposes. Thus, the city is still providing employees with the device they need in the workplace. 55% of the respondents were using their owned laptop/PC regularly for work, either in the workplace or from home or on the go. This only means that laptop/PC is frequently used BYO device in the work place. As they used their own device in their workplace, they prefer that IT support should be provided. It was reflected in the survey that 46% of the respondents were extremely likely to be provided with IT support. Their request for support from their workplace can be provided by the ITS department since 75% of the respondents were able to say that the IT department helps them troubleshoot their personal devices to maximize their productivity. The respondents were also asked if they will allow their IT Department to manage their devices in exchange for support, 60% of the respondents agree. Thus, they are willing to use their own device at workplace where there are technical supports. The 60% of the respondents agree that their devices be managed by IT department in exchange for higher allowance - about Php500 per month. On the other hand, the advantage of BYOD over Traditional IT emphasized that BYOD is preferred over IT because of its functionality that makes them productive employee. Lastly, there is significant difference between BYOD and traditional IT. This was emphasized as the respondents show their willingness to adopt this innovation in their workplace. BYOD promises advantage in terms of mobility, cost, technology familiarity, flexibility, and agility. Despite the aligned similarity of this research in the previous research on Alaminos Municipal Hall connectivity, there are also differences in terms of the prefer personally owned devices that respondents regularly used for work, either in the workplace or from home or on the go, their awareness on the application of VPN and RSA Token, and if they agree that respondent's used their own device(s) for work purposes because they prefer their technology, software, o/s (e.g., Mac vs. PC, Chrome vs. Explorer). These differences, the findings still emphasized that perception of both cities is the same in terms of BYOD adoption and connectivity options and both municipalities are ready to this IT innovation in the workplace. Further studies can focus on providing a theoretical derivation of the expected average performance of the BYO devices. It would also be interesting to investigate the security issue of BYOD. Finally, BYOD policy and management can be developed to resolve issue in terms of security.

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