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IT enabled service innovation in e-government: the case of Taiwan drug abuse reduction service

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ABSTRACT

Drug abuse problem is one of the toughest issues faced by governments in the world. The typical solution is every time when the drug abuse offenders are under arrest, they are jailed for a while. There is high probability that they will repeat the offense after leaving the prison. Thus, such a solution wastes lots of administrative resources from the government, yet still cannot reduce the recidivism of drug abuse. Nowadays, most countries treat drug abuse offenders as patients, and offer them substitute treatment in order to reduce the dependence on drug and also reduce the risk of infecting AIDS. The patients will go to work as a normal person, live as a normal person, and keep their human dignity. In this study, we introduce the care of Taiwan drug abuse reduction service by service blueprinting method. The service integrates several ministries of Taiwan government in signal information system, and will be triggered automatically when the drug abuse offender is leaving the prison. Subsequently, we analyze the case by the framework of Service Open System View and then provide some suggestions for improvement of the existing service. This study share the case of Taiwan drug abuse reduction service and provide the best practice of improving existing service by the view point of service science to academics.

Keywords: IT enabled service, e-government, drug abuse reduction service.

INTRODUCTION

Drug abuse problem is always ranked as one of the toughest issues faced by a government in the world. It is very difficult to monitor drug abuse offenders after they are out of prison. It is also difficult to perform service of detoxification when they are not in prison. On the other hand, drug abuse offenders are not easy to find jobs, and can be easily attracted by drug abuse group. Therefore, there is high probability that they will repeat the offense after leaving the prison.

In the viewpoint of drug harm reduction service provider, the complicated service process is cross several ministries including Ministry of Justice, Police Agencies, Council of Labor Affairs, and Department of Health. The service is an

extremely difficult task. This predicament seems to have no correlation with information technology (IT) at first glance; however, after a carefully review on the problems, procedure and the regulations of drug abuse, IT can actually contribute a lot to the service of drug harm reduction.

The project "Single window service for drug abusers" (SWSDA) in Taiwan was established on December 2008. The tasks of creating SWSDA include building the information center of drug abuse offenders that collects all the valuable information from relative ministries (or agencies), as well as building the standard operation procedure (SOP) for Drug Abuse Prevention Center. The collected information and built SOP are very helpful for the counselor of Drug Abuse Prevention Center, who are responsible for supervising the offenders who are set free from prison to rejoin the society without the harm of drug. The project was launched by Drug Abuse Prevention Center in Taipei City, Taipei County, Taoyuan County, Tainan County and Taitung County on January 2009. Later on May 2009, the service was extended to the whole country.

The motivation of this study is to discuss the case of SWSDA from the lens of Service Open System View. The success of IT-enable service relies not only on IT but also the coordination of service co-creators. In addition, we try to identify the service gaps, and provide suggestions to fill these service gaps.

There are three major parts of this article. At first, we will briefly review drug harm reduction researches in the literatures, and also describe the substitution treatment of drug abuse. Second, we introduce the details about the project of SWSDA in Taiwan. Finally, we discuss the service gaps and their corresponding solutions

RELATIVE LITERATURES AND DRUG ABUSE TREATMENT SERVICES IN GOVERNMENTS

Substitute treatment offers drug abuse offenders Methadone or Buprenorphine to substitute their drugs. The properties of Methadone and Buprenorphine are lower addictive and long interval between taking drugs. The drug abuse offenders can reduce the use of drugs and resolve

drug abuse problems in their daily life. Furthermore, the substitute treatments is not liquid to inject into human body, it is pills to eat. The number of patients with infectious diseases transmitted by injection like AIDS, Hepatitis B, Hepatitis C and endocarditis will decrease.

A study with 506 drug abuse males in New York in 1988 showed 71 % of observed subjects did not inject drugs during the period of substitute treatment. Sixty percents of observed subjects did not injection drugs longer than one year. But there were 80 percents of observed subjects whose were not treated by substitute treatment abused drugs again within twelve months (Ball et al.).

Another study conducted by the U.S. National Institute of Drug Abuse in 1996 observed 2973 subjects, including substitute treatment experiment group and reference group, and within 15 states in the U.S. After 6 months of observation through urine testing, the study reported that the number of people who did not abuse drugs in the experiment group was 3 times of the number in the reference group (Metzger and Navaline, 2003).

Hong Kong Methadone Treatment Programme began in 1972, and put into practice in the entire Hong Kong area in 1976. The program is jointly in charge by Hong Kong Narcotics and Drug Administration Unit and The Society for the Aid and Rehabilitation of Drug Abusers. The goals of Hong Kong Methadone Treatment Programme are: (1) Provide easy, legal, and medically safe and effective drug; (2) Help drug abuse offenders have self-reliance and live a normal life; (3) Reduce the case of needle sharing through monitoring, health education, and counseling; (4) Encourage drug abusers to receive treatment; (5) Help drug abusers to detoxicate drug (treatment, rehabilitation, and reintegration). There are one assistant director-general, three full-time senior doctors, 26 social workers, 42 doctors, and 135 medical assistants who provide services in the night-time clinics. And there are 20 Methadone clinics open 365 days a year, 7:00 to 22:00. The lower the service waiting time, the less the cases of drug abuse. If a gap exists between the methadone maintenance treatment and the drug abuse demand, the drug abuse offenders may resort to drugs again.

This particular program has been successfully running for more than 30 years. The reason Hong Kong government uses the substitute treatment is to save the drug abuse offender's life first and work on abstinence and rehabilitation later.

In Taiwan, Ministry of Justice performed a two-stage investigation into drug abuse offenders in various types of criminal activities in 2008. The purposes of first-stage investigation are to recognize the need of Careline for the drug abuse offenders, how drug abuse offenders understand about Drug Abuse Prevention Center, and difficulties and needs in the processes that drug abuse offenders rejoin the society. The objective of second stage is to identify demand for job training and employment from drug abuse offenders. The second stage investigation include questions for determining correlation between calling time and content of requests for calling the Careline for drug abusers in order to effectively and economically allocate manpower resources and relative resources within Careline for drug abusers. The research findings bring valuable insights as follows: (1) In order to provide a helpful service by Careline for drug abusers, we have to integrate resources from related agencies such as Drug Abuse Prevention Centers, Department of Health, and Council of Labor Affairs. (2) Careline for drug abusers should provide services 24 hours a day for different types of drug abusers. (3) Integrate channels to provide help to drug abusers in order to increase the convenient for drug abusers. (4) Promote and advertise often the Drug Abuse Prevention Centers to the public. (5) Promote and advertise often the Drug Abuse Prevention Centers in the prison, and the frequency of individual counseling service for drug abusers. (6) Initiate programs of facilitating employment for drug abusers.

PROJECT CASE

Drug abuse problem in Taiwan

Drug offender is the highest number of population in various types of criminal in Taiwan. There are 38.5 percents (25,064 persons) of prisoners in correctional facilities including prisons and jails who are drug offenders. In addition, recidivism rate of drug offenders is 79.3%, and 72.9 percents of recidivist are addicted to heroin or morphine.

It is very difficult to fully rehabilitate the drug addiction. Repeat drug offenders once out of prison can hardly decrease the recidivism and waste a lot of social resources. Therefore, in practice the drug addicts should be treated as patient nowadays. Taiwan Narcotics Endangerment Prevention Act was adapted to this point of view on 1998 and treats first drug offenders as patients, and treats first repeat offenders as criminal.

Drugs harm prevention policy also gradually changed from the previous containment arrests to

directing drug offenders to substitution treatments. Substitution treatment given to drug addicts enables them to get rid of addiction to drugs, to work properly, to live a normal life, and to keep their personality. It further reduces the risk of being infected with AIDS from injections of heroin, and the social problems from misdemeanors caused by drug abuse.

Related agencies and IT-enabled services in Taiwan

The first department in Taiwan which promotes substitution treatment is Department of Health. Department of Health lunched a drug addiction and AIDS Harm reduction program and assigned each local Health Center to adopt drug substitution therapy. The District Prosecutors Office of Taiwan Ministry of Justice gives relief for the prosecution of second drug offenders and forces those second drug offenders to be treated with drug substitution therapy in local Health Center. Every county and city governments in Taiwan had formed local Drug Abuse Prevention Center. Taiwan's government expects to help up to fifteen thousand drug offenders a year out of prison for detoxification by above programs, and to reduce impact on the community once the drug offenders are out of jail.

drug abuse offenders. Prison database also transmit the assessment information on detox outcomes of those drug offenders during the period of imprisonment to the information center of drug abuse offenders (2) Department of Health collects real-time substitution treatment information of drug abusers from each local Health Center, and imports those information to the information center of drug abuse offenders daily. This allows the counseling staffs of the Drug Abuse Prevention Centers to know well the governance situation of substitution treatment reported by the counseling cases. (3) National Police Agency collects records about urine test for drug offenders from city and county police departments and reports about inspection visits by police officers concerning the security of drug offenders, and imports those data to the information center of drug abuse offenders. In order to monitor whether the drug abuse offenders are repeating the use of drugs and whether the drug abuse offenders are out of contact with local Police Office. (4) Council of Labor Affairs collects information about drug abuse offenders who participate in job training provided by city governments or county governments and information about drug abuse offenders who have got jobs, and then imports

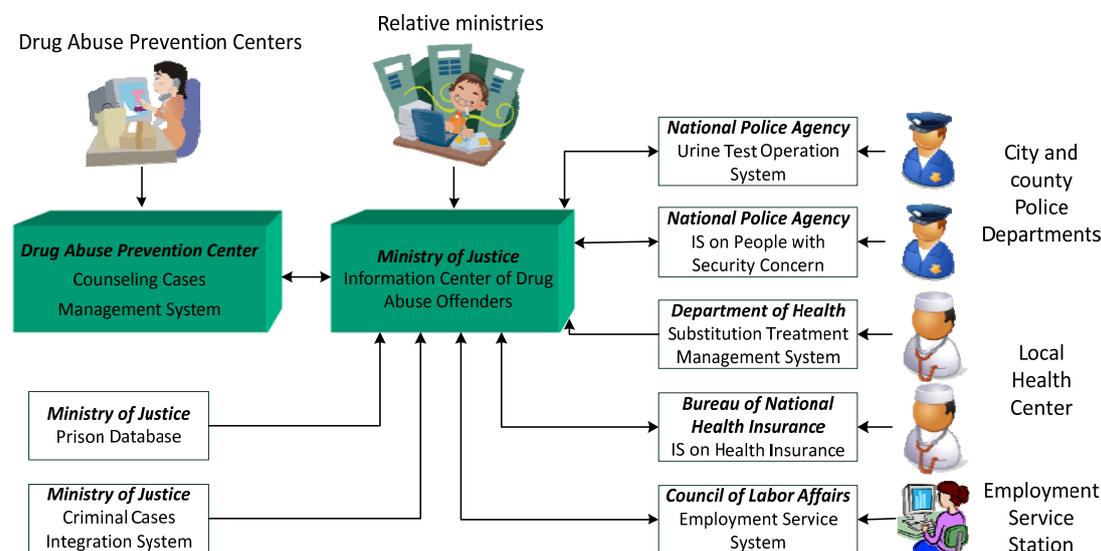


Figure 1: Related government agencies

In May 2009, the Department of Information Management in Ministry of Justice in Taiwan took over an IT-enabled service for drug abuse reduction that was named “Single window service for drug abusers”. The SOP of service is composed of following steps. (1) Criminal case database in the Ministry of Justice imports personal information on drug offenders who will be out of prison soon to the information center of

that information to the information center of drug abuse offenders daily. This allows the counseling staffs of each Drug Abuse Prevention Center to know well the employment status reported by the job training cases. (5) Each counseling staff of the Drug Abuse Prevention Centers has to not only accesses the information about drug abuse offenders but also update the detail information about daily counseling cases into the information center of drug abuse offenders. (6) Bureau of

National Health Insurance provides online connection to query the information about health insurance of each drug abuse offender that was insured by employer in order to monitor the latest employment status of drug abuse offenders. Figure 1 depicts the information flows of the related agencies.

Service gaps on SWSDA from the viewpoint of Open System View

Service organizations are sufficiently unique in their character to require special management approach. The distinctive characters enlarge the system view and include the customer as a participant in the service process. On the other hand, customer is viewed as an input that is transformed by the service process into an output with some degree of satisfaction. (Fitzsimmons, 2008)

In this session, we adapt Open System View which is by created by Fitzsimmons as a lens to analyze SWSDA in Taiwan, and to identify service gaps. As Figure 2 shows, there are 6 key components those are consumer demands, service process, evaluation, service personnel, service operation manager, and service package separately in the Open System View.

addictive and long interval between taking drugs. The drug abuse offenders can reduce the use of drug and avoid drug abuse problems in the daily life.

Service Process: Base on the consumer demands, the service provides substitution treatment, counseling service on detoxification, and job matching, etc.

Evaluation: The service evaluates the overall customer's satisfaction during the entire service process. The factors in customer's satisfaction include the convenience of patients treated, the number of successful detoxification cases, and the number of job matching cases.

Service Personnel: Service personnel concerns about the training of counselors who provide services to drug abusers, the training of counselors who evaluate whether the drug abusers are suitable for substitution treatment, and the training of health professionals, etc.

Service Operation Manager: The objectives of service operation manager are to meet customer demand through the interaction between customers and service staffs, to control service process, to monitor service quality measurements,

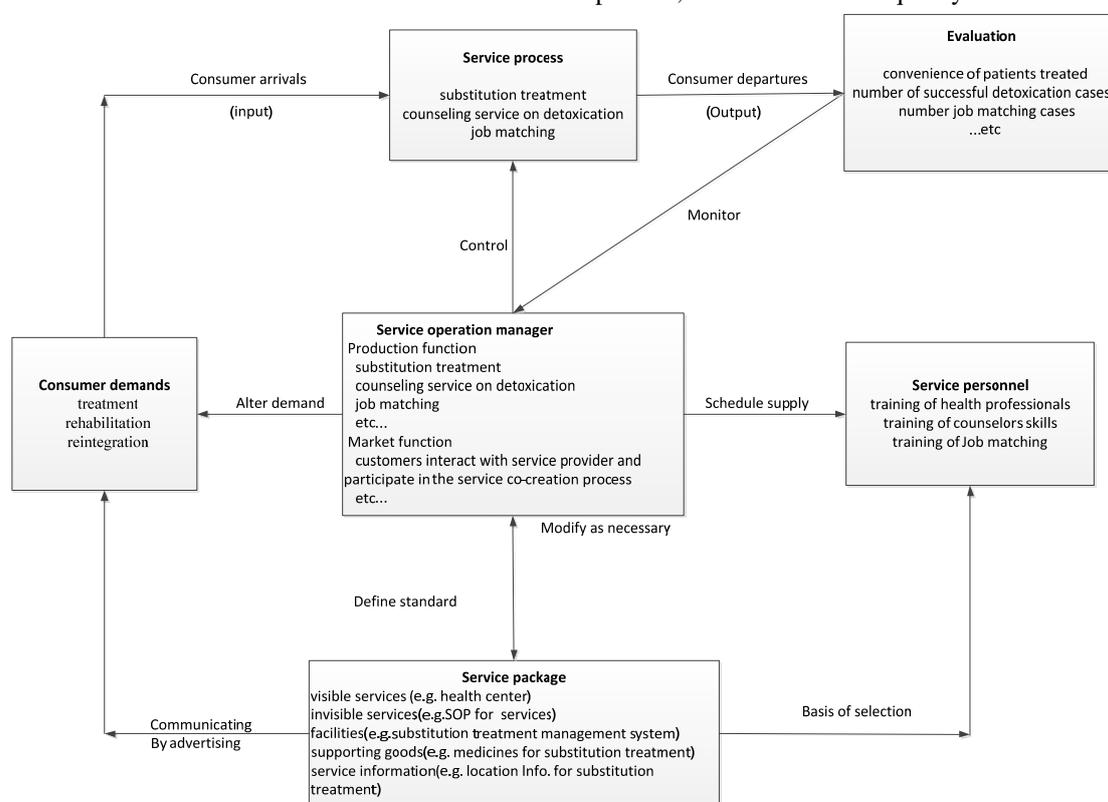


Figure 2: Open System View

Consumer Demands: Easy, legal, and medically safe and effective drugs, which are lower

schedule the training of service staffs, and define service standard. In details, "Production

function” treats all processes (including substitution treatment, counseling service on detoxification, and job matching etc.) as a service; Customers interact with service provider and participate in the service co-creation process is an important source of information in “Market function”.

Service Package: The characters of SWSDA are very special; it is humanitarian in nature and maintains law and order; it is a kind of social welfare and a kind of compulsory medical service. The relative laws and regulations using in the SWSDA have to be ready before the service is launched, because the service requires a lot of full-time manpowers who must have a legal status, and the compulsory medical services must have legal basis. The experience of interaction between drug abusers and service staffs should feedback to the law amending process, in order to fill the gaps between legislative knowledge and actual practice today.

DISCUSSION

After the analysis above, this study discovers that five gaps exist in the SWSDA. These gaps and the recommended solutions to fill the gaps are discussed below.

Service Personnel

Gap 1: There is no full-time employee devoting to counseling and to service for drug abusers in the Drug Abuse Prevention Centers.

The idea of Drug Abuse Prevention Center was generated in the first Drug Abuse Prevention Meeting which was held by Taiwan Executive Yuan in 1996. And then, Executive Yuan asked the district prosecutor offices of Taiwan Ministry of Justice to assist local county and city governments to establish Drug Abuse Prevention Centers. Drug Abuse Prevention Center is only a service concept and a part of daily operations of local government staffs. Therefore, there is no full-time employee in the Drug Abuse Prevention Centers. And, it is unable to really monitor all counseling cases of drug abusers.

Lack of manpower is the most critical problem of Drug Abuse Prevention Center. In short-term, we suggest that Taiwan government should use the second reserve funds in Executive Yuan for Drug Prevention Center to hire contract personnel who have counseling skills. In long-term, we suggest that change the Drug Abuse Prevention Center form a service program to a physical department through legislation so that Drug Abuse Prevention Center will have their own budget and their own staffs.

Service Operation Management

Gap 2: Counselors and medical personnel do not build relationship and trust with drug abuse offenders before they are out of prison. It is very difficult to monitor drug abuse offenders after they are out of prison. Thus, it is not easy to perform detoxification service afterwards.

Due to the lack of manpower in the Drug Abuse Prevention Centers, it is impossible for counseling staffs to conduct face-to-face and one-by-one counsel before the drug abuse offenders are out of prison. Accordingly, counseling staffs are also difficult to make the connection with drug abusers.

For this gap, we suggest that Drug Abuse Prevention Centers should increase the number of times to advertise in the prison, and the advertisement should put more emphasis on introducing functions and roles about the Drug Abuse Prevention Center, form a professional, familiar, and human-caring image in drug abuser’s mind, in order to let the counseling staffs be closer to the drug abusers.

Gap 3: There is no employment and residence mechanism for drug abuse offenders after they are out of prison. There are no related organizations to administrate those mechanisms.

It is difficult if not impossible for drug abuse offenders to take drug in the prison, but it is easy to take drugs again after they are out of prison. The primary reason is that a lot of drug abuse offenders are not accepted and helped by their family after out of prison. Therefore, the drug abusers do not have a stable place to live in, vulnerable to social exclusion, and easy to be attracted by the same type of people. Thus, drug abuse offenders have very high probability to take drugs again. On the other hand, the employments of after-inmates (people who are out of prison) are rare because employers are not willing to employ after-inmates. That is, drug abusers are not easy to make their ends meet, and live like a normal person.

Nowadays, the only one law (Narcotics Endangerment Prevention Act 25) in Taiwan related to after-inmates who are drug abuse offenders. These after-inmates must regularly test their urine within two years after released. We suggest that it should establish some halfway houses and the drug abuse offenders can spend their last half of sentence in halfway houses. This suggestion results in two great outcomes. The first is the drug abuse offenders can get jobs and back to the community under strict surveillance.

The second is the drug abuse offenders can try to stop taking drug in the community. The drug abuse offenders could find jobs by themselves or by a government agency. On the other hand, the drug abuse offenders have to test their urine regularly. If the drug abuse offenders take drugs again or do harm to society again, they will be back to prison.

Evaluation

Gap 4: Substitution treatment is not yet an universal and effective execution in Taiwan.

The effects of substitution treatment were testified by USA, Singapore and Hong Kong. Especially, the Hong Kong practices are more than 30 years, and have great successful outcomes. In contrast, there are only 20% of local health centers providing substitution treatments in Taiwan, and the drug abusers have no idea to get help from governments. The counselors should make more effort on promotion of substitution treatment and help the drug abusers to take substitution treatment.

First, we suggest government to integrate all the helping channels including prisons, Drug Abuse Prevention Centers, police departments, health centers, and employment services in order to provide more convenience services. Second, we suggest the government to build a 24-7 call center to play the role of service window for difference customer needs.

Service Package

Gap5: There is no service SOP (standard operation process) nor rules in the Drug Abuse Prevention Centers, and there is also lack of service measurements in the related organizations.

There is no standardized service process in the Drug Abuse Prevention Centers in difference cities and counties. We suggest that the government must design a uniform process in the Drug Abuse Prevention Centers. In addition, the performance measurements which do not well established for the goals of drugs harm prevention is a big problem too. For instance, one of the measurements of police in the field of drugs harm prevention is how many drug abuse offenders they arrested. We suggest the measurements should be changed from the number of arrest cases to the number of drug abuse counseling cases and further change the weight of measurement in counseling case. When the police are doing inspection visits concerning the security of drug offenders, they will introduce the drug abuse reduction service to the drug abuse offenders instead of arrest them again.

CONCLUSION

The SWSDA in Taiwan is working but not to its full potential. There are five service gaps exist in the current service. After discussing the service gaps in the SWSDA, we offer service improvements to fill the gaps. The ultimate goal is to make the drug abuse reduction and prevention effort effective through IT-enabled services that are easy to use, convenient to use, and useful for the drug abusers. With a clear goal to work for, the service will become more and more complete. Although the drug harm reduction work is very tough, but there are many successful cases to take lessons from. Even though there are only ten to twenty percent reductions in the recidivism rate of drug offenders, the SWSDA still has great potential to benefit the whole society in Taiwan.

REFERENCES

References available upon request.