Service Development Management: A Study of its Applicability in the Minas Gerais State Military Police

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Abstract

The chaotic situation faced by the public safety system in Brazilian states has forced authorities to replace ineffective reactive police strategies with "community preventive actions" to fight criminality. However, the military police lacks necessary instruments to develop fast new prevention services that have the quality and effectiveness the community desires. This paper describes how the conceptual-theoretical basis of Service Development Management (SDM) was adapted to the planning of new prevention services in the Minas Gerais Military Police (PMMG - *Polícia Militar de Minas Gerais*). The work consisted of two interventions: 1) formulating a management pattern for developing preventive services; 2) creating a management instrument for gathering, evaluating, and selecting service ideas, and internal launching of new services. The methodology of action-research was used as the engaging strategy. The conclusion is that transposing the SDM conceptual-theoretical basis from private companies to the PMMG is possible with minor changes which are mostly related to the nature of the corporation. Nevertheless, it must be said that the similarities between principles and characteristics of preventive policing services and those of private companies have made such transposition easier.

Keywords: service development management, community preventive services

Introduction

This paper describes the application of the conceptual-theoretical basis of Service Development Management (SDM) in the planning of new prevention services in the Minas Gerais Military Police (*PMMG – Polícia Militar de Minas Gerais*). The increasing criminality rates have been making the Brazilian society more skeptical to the possibility of finding a solution to this social problem. In average, one person is murdered every 13 minutes in Brazil. The rate of violent criminality has grown up more than 300% in the last 4 years in Minas Gerais; and the annual damage caused by the criminality, only in the city of Belo Horizonte, is around R\$ 883 million (Rondon, 2003). In this crisis and damage scenario, the evaluation made by the Minas Gerais society about the quality of the services provided by the PMMG shows dissatisfaction – only 43% of the people have a positive perception of the PMMG work, just 37% trust in the services provided, and 57% believe that the PMMG is competent (Beato, 1999).

An analysis of the service portfolio of the PMMG reveals that about 85% of the services provided to the Minas Gerais society are repressive or reactive, in other words, services provided only after the crime has already happened. The number of PMMG's reactive services reveals that, even with the growth of indicators (showed in Table 1) in 2004 compared to 1993, the PMMG has not been successful in reducing the increasing criminality in Minas Gerais.

Service indicators	1993	2004
Distance travelled by all the PMMG's vehicles (in million km/year)	60	132
Number of occurrences attended/year (in million)	0.9	3.0
Number of people arrested/year (in thousands)	112	227

Table I - Indicators of the reactive service of the PMMG in the years of 1993 and 2004.

Source: PMMG.

This ineffectiveness and disbelief in the reactive services provided by the PMMG impelled the High Command of the PMMG and the people in charge of the state public security to start a process of inter-institutional and intra-institutional restructuring. Concerning the inter-institutional restructuring, an attempt has been made to promote a greater integration and interaction with other Criminal Justice segments such as Civil Police, Public Ministry and the Judiciary, so as to have a greater information exchange and coordinated and joint actions.

Regarding the intra-institutional change, several works have been implemented, such as: criminality geo-processing, electronic bulletin, improvement of the services provided, among others. In order to provide a better service, which is the focus of our study, the corporation has become more concerned with providing preventive services to fight the micro-criminality – undersized crimes against property, person and public order. In view of this, since 1999, the PMMG has been creating Community Councils for Public Security (CONSEP – *Conselhos Comunitários de Segurança Pública*) as an attempt to implement Community Policing in the state. However, there is a need for enhancing the competence of police units and providing them with resources and instruments for service management, so that they can seek together with the community solutions to the criminality problems and, most of all, develop community preventive services. A comparative analysis of the "public security services" provided by the Military Police and the "market services" provided by the private companies (e.g.: bankers services, hospital services and so on), reveals similarities and differences between them. Among the similarities, there are the general service characteristics such as: intangibility, inseparability, heterogeneity, and perishability. These similarities become greater when the preventive service, characterized by a greater interaction and integration between the policeman and the community, happens. Among the differences, stand out two: 1) services as citizen's right instead of services by acquisition (purchase); and 2) reactive services, though undesirable, are necessary because of circumstances.

A comparison of the characteristics of these two types of institutions also points out differences and similarities. Contrary to the private companies that aim the profit and have missions determined internally, the Military Police is a public institution without profit aims and has its mission determined by the Federal Constitution. In addition to this, in this security public institution, the work functions are more stratified and visible because of its military hierarchy. In relation to the similarities, as the private companies, the police units also have functional work areas (Human Resources, Logistic, Communication, Planning, and so on) that design and execute the services determined by its mission.

The literature about public security SDM, from the perspective of Operations Management, is very scarce. Although there is literature about models or strategies of policing, it does not focus on how the security services can be developed nor does it indicate which methods or instruments could be used as support. Hence, the present study proposes to investigate how the literature on product management and service development, used by the private companies, can be relevant to the work of a public security institution.

The main body of this article is divided into two sections. The first section presents a literature review of Policing Models and SDM in private companies. The second section describes the application study, the research strategy, the interventions and the outcomes.

Policing Models

There are in the police literature three most known policing models: Traditional Policing, Community Policing, and Problem Solution Oriented Policing. These models have, respectively, an emphasis on: **reactive actions** (wait for the problem to occur and then act), **community preventive actions** (actions are taken before the problem occurs) and **preventive actions oriented by the community problems** (the police preventive action is demanded by the real needs of the community).

The traditional policing model, born in the beginning of the 20th century, is characterized by high specialization, centralization, and distance from the community. It has not been effective in the fight against criminality and in guaranteeing citizens' security (Skolnick and Bayley, 2001; Cerqueira, 2001; Rosenbaum, 2002). Aware of this situation, the Brazilian Military Polices are gradually incorporating the concepts of another policing philosophy, Community Policing, to tackle micro-criminality.

The Community Policing, born in the 70s', is characterized by the work with the community in a partnership of mutual trust. Some principles that permeate this model are:

- Recognition of the important role the community plays in the conception and production of police services (Skolnick and Bayley, 2001);
- Prioritization of police tactical actions, paying more attention to small crimes (nonemergency services) and disorder (Leigton, 1991);
- Making the frontline policemen known to the community through enhancement of their autonomy in decision-making and action (Mastrofski, 2002; Reiner, 2002); and
- Reciprocal information exchange and effort synergy with non-governmental organizations, churches, schools, associations and others (Skolnick and Bayley, 2001).

The Problem Solution Oriented Policing, mostly implemented with the Community Policing model, is composed of five phases: 1) identification of problem; 2) analysis of fundamental causes; 3) action planning; 4) implementation; and 5) outcome evaluation. The experiences of police agencies in countries like Singapore, United States and Japan reveal that preventive solutions to criminality problems, taken together with the community, have achieved great outcomes in the reduction of criminality (Skolnick and Bayley, 2001).

However, the police literature does not present management processes for development of community preventive services and support instruments to facilitate the police agencies' work. Studies have also demonstrated an increasing desire of incorporating concepts, principles and administrative processes from traditional organizations into police corporations (Cerqueira, 2001; Reiner, 2002).

Service Development Management - SDM

The field of Product Development Management (GDP – *Gestão de Desenvolvimento de Produto*) is extremely wide (Cheng, 2000), and the review carried out in this paper is focused on the area of services, especially on two issues: 1) formal development framing; and 2) initial and final stages of development, i.e., idea generation and introduction into the market, respectively. The reason for this choice was due to the *in loco* study, when a consensus between the researchers and the PMMG work team was reached on priority topics within the general theme of preventive service development.

The formal development process

In order to increase the efficiency and the efficacy of the service development system, some top companies have adopted practices such as:

- Use of formal development processes without skipping stages, and application of techniques and support instruments in these stages (De Brentani, 1995; Griffin, 1997);
- Development of multidisciplinary teams with autonomous (empowered) leaders and the presence of front line people (Edvardsson et al., 1994; Edvardsson 1997; Fitzsimmons and Fitzsimmons, 2000; Goldstein et al., 2002);
- Strong market orientation, trying to incorporate client voice in the planning of new products and services (Cooper and Edgett, 1999; Cooper, 1993); and
- Involvement of all functional areas, suppliers and clients in the development process since the initial stages (Cooper, 1993).

Some of these practices are present in the managing models of service development described in the literature, specially: the Booz-Allen and Hamilton (1982) model; the Stage-Gate by Cooper and Edgett (1999); the Scheuing and Johnson (1989) model; and the Edvardsson et al. (1994) model.

A synthesis of some elements and the main characteristics from each model, together with an analysis of their applicability in the context of preventive security service development are presented in Table 2.

Table 2 reveals that: a) most of these formal service development structures are derived from models initially conceived for products; b) the most common elements among these models are strategic direction, evaluation tests, and training of service providers; and c) some features that could be included in a development management model for the PMMG are having multidisciplinary teams, being orientated toward citizens-customers' needs, having evaluation and decision points throughout the process, and involving front line people in the development process.

Generation of ideas and introduction into the market

A new idea is the starting point or the raw material for the development of new services. For this reason, many companies consider the establishment of systems for obtaining and evaluating ideas as an important step towards a greater competitiveness (Cooper, 1993). In this system, the customers' suggestions obtained through brainstorming sessions and focus group dynamics, and the utilization of the knowledge from those who are in direct contact with clients, have given good ideas for new services (Urban and Hauser, 1993; Cooper and Edgett, 1999; Fitzsimmons and Fitzsimmons, 2000; Goldstein et al., 2002).

Other internal and external sources for idea generation used by private corporations are: creation of research and development programs, analysis of new technologies, attendance of the personnel from the marketing and R&D areas to congresses, establishment of communication channels inside the organization (chat, intranet, ideas bank), creativity techniques, and analysis of the strategies of competitors' services and business.

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Authors and year	General characteristics		Model structure	Advantages and disadvantages	Conclusion	Features that may be applied to the poten- tial PMMG model
Booz Allen and Hamilton (1982)	One of the first methodologies created to plan service develop- ment. It was drawn from a product de- velopment model.	Strategy definition Service pre-development Service concept development Service providing process development Viability analysis Implementation Market test Commercialization	elopment	Simple and dynamic, this model organizes the process in logical steps.	This model inspired The strategic orientation new ones, and maybe as the first step for the for being the first of its units to define the com- kind it is also the least munities where services sophisticated. will be generated at short and medium-term, and the stages of viability analysis and tests.	This model inspired The strategic orientation new ones, and maybe as the first step for the for being the first of its units to define the com- kind it is also the least munities where services will be generated at short and medium-term, and the stages of viability analysis and tests.
Scheuing and Johnson (1989)	This model was based on empiri- cal experiments. It includes 15 steps organized into 4 stages.	Direction choice Service Project Project Bervice Iaunching	Setting company's goals Generation of ideas Evaluation and selection of ideas Service concept development Concept testing Business analysis Authorization for project start Service project and testing Process project and testing	This is a more com- plete and sophisticated model, although not the most suitable for deri- vate or low-innovation services.		The following stages In addition to the goal should be highlighted setting stage, a frontline generation of ideas personnel training might (in which internal and ensure that preventive external sources are service quality features valued); and personnel are not lost when it is actually provided for the community. Furthermore, preven- tive service testing and evaluation stages could also be applied.

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Preliminary investigation Detailed Investigation Development testing testing testing	This model was 1- Gathering and evaluating ideas, concept development. also based on prod- 2- Project making, customer and competition analysis. uct development 3- Service project and co-service system project. models. There are only four stages. 4- Co-service process project and implementation.
This model is known as Stage- gate systems or Game-plan and has 5 develop- ment stages and 5 evaluation points (gates).	
Cooper and (1999)	Edvardsson, B et al. (1994)

After the generation of a large number of ideas, the literature recommends that a filtering process should be carried out (Cooper, 1993). In this sense, a criterion list is applied to evaluate and select the best ideas that could become new projects. The most used criteria are: the strategic alignment of the idea with the mission and image of the company, its technical and economic viability, compatibility of the idea with the organizational structure, and its innovation degree to the market and the organization.

The stage of introduction to the market, although has a great importance in the product and service development process, has a large study and empirical research gap (Griffin, 1997, 1999; Di Benedetto, 1999). Internal service release is an activity of the release stage that large corporations that own several units may have to face. These corporations may have this additional strategic decision which is to release or not a product or service developed by one unit to other corporation units.

There are several questions about the internal release that still do not have answers in the literature. Among the main questions some call for special attention:

- Is the decision of releasing services internally a decision that precedes, is simultaneous to, or succeeds the external release?;
- Which are the most efficient instruments and communication channels for the organization to make the new services internal release?; and
- How can one assure that the service created in a unit does not loose its concept and its quality characteristics when it comes to be produced by another unit?

Summarizing the review of the SDM literature, it is important to point out that the field of new service development is new and demands more investigation (Menor et al., 2002). What is noticed in the practice is that the demand of the service area is being supplied by the adaptation from the product domain (Easingwood, 1986; Hollins and Hollins, 1991; De Brentani, 1995).

SDM Application in the PMMG Preventive Service Planning

The research strategy used in this study was the action-research. As Rapoport (1970, p. 449) wrote: "Action research aims to contribute both to the practical concerns of people in an immediate problematic situation and to the goals of social science by joint collaboration within a mutually acceptable ethical framework". The action-research (AR) process is cyclical and consists of following five steps, according to Susman and Evered (1978): Diagnosis, Action Planning, Action Execution, Evaluation, and Learning Specification.

The activities of this research began in August 2001 and ended in December 2003. Four members from the PMMG (a Colonel, a Major, and two Captains) and two researchers from the *Núcleo de Tecnologia da Qualidade e da Inovação – NTQI, DEP/UFMG*, formed the research team.

In the first step of this research, the diagnosis, an evaluation of the PMMG service portfolio and preventive services development process was carried out. Two semi-structured questionnaires were formulated and applied in 12 of the 25 units of the PMMG in Belo Horizonte. The first questionnaire, filled out by unit commandants, aimed to analyze the portfolio of new service projects in the unit and the practice of community policing. The second questionnaire, filled out by the officer responsible for planning operations of the unit, aimed to understand the process of new preventive service development.

In addition, other research methods were applied, such as, analysis of PMMG management documents, attendance to meetings for planning operations, and direct observation of preventive services. All members of the research team took part in the planning and execution of data collection.

The analysis of the services that the PMMG offers to the Minas Gerais society revealed that:

- The Service Portfolio (Preventive and Reactive) is unbalanced and not aligned with the strategic planning;
- There is a lack of instruments to manage and control the relation between the demand for criminality preventive services and the corporation's preventive services portfolio; and
- An unfamiliarity from the operational units with the preventive service portfolio provided by other corporation units.

The outcome of the analysis of the existing Service Development Process under focus compared to the theoretical basis in SDM and in the policing models is evidenced in Table 3, and is divided into negative and positive aspects. Table 3 reveals several weak points. Among the main ones, we can point out two: the services' unilateral conception without the participation of the front line personnel and the lack of procedures that help community planning new preventive services.

In the second step of AR, the action planning, two lines of action were established from the preceding stage: 1) formulation of a pattern of community preventive services development to be used by the area operational units; and 2) development of an instrument to be used by the general command, allowing it to manage (identify, evaluate and select) prevention services ideas and to facilitate the institutionalization of new preventive services created by operational units.

The research team met together weekly to collect and analyze information, and to make decisions. The role played by the researchers was to prepare and conduct seminars where alternative actions for problem solution were presented. These alternatives for problem solution were supported by academic literature from the fields of Product Development Management, Community Policing and Policing Oriented towards Problem Solution.

		Theoretical Basis	
of		New Service Development Management	Community Policing and Problem Solution Oriented Policing
I negative aspects in the practice tive service planning in PMMG	Negative Aspects	 Individual development work instead of team work; A single, confused, and not updated pattern for all kinds of services developed by the PMMG; Front line people are not involved in prevention service planning; Lack of instruments for efficiency and efficacy evaluation of prevention services; and Absence of a Development Center or task-force for specific services conception. 	 Timid community participation in new service planning; Unit managers have restrictions to community participation in problem solution; Lack of procedures that help the Unit Commandants in planning service together with the community; Unit Commandants unaware of the Community Policing and Policing Directed to Problem Resolution; and Front line policemen not engaged with the prevention service planning.
Positive and negative preventive servic	Positive Aspects	 Strong entrepreneurial character of some commandants; and Autonomy given to units for planning and developing preventive services ori- ented to their reality. 	 Joint planning of the PMMG prevention services together with some associations; and Good results that some commandants have obtained in their units with the Community Policing.

Table 3 - An analysis of the PMMG development practice co	ompared to two theoretical basis.
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With regard to the formulation of the pattern, some requisites were pre-established as important: be flexible (non-bureaucratic), be simple and easy to be understood, be faithful to the community policing principles and oriented to problem solution. Based on these, the third step of AR - the action execution, was prepared:

- 1st phase: seminars on development management patterns and policing models. This stage was called work team training;
- 2nd phase: analysis of the current way of developing services, establishment of the new pattern and presentation to the Major State Planning Section for approval;
- 3rd phase: choice of two units for the training of a group of policemen and CONSEP members in using the new pattern; and
- 4th phase: final considerations about the pattern creation process and presentation of the outcomes to the PMMG General Command.

The created pattern, as shown in Figure 1, presents a combination of elements from the four models reviewed in the SDM literature. The five work stages and the three evaluation and choice making points (P.A.R.E. – *Pontos de Avaliação e Realização de Escolhas*) are derived particularly from the "stage-gate" model by Cooper et al. (1999).

The strategic direction, as an important starting point in the four models presented, was incorporated into the PMMG model. In this first moment, the unit Commandant and the CONSEP director board analyzed the front line policemen availability in the unit to manage preventive services projects and define the communities inside the unit sub-area that have preventive services project priority. For illustration, only the two first stages will be presented.

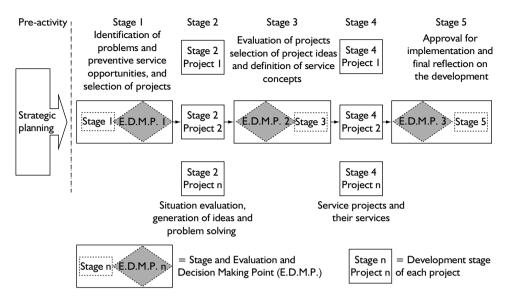


Figure 1 - Management Pattern for Community Preventive Services Development at PMMG.

With the unit strategy defined, a meeting was carried out with each chosen community for identification, evaluation and selection of the problems that have priority in the prevention projects. These activities defined the first Evaluation and Choice Making Point in the project. In this meeting, a group of people was chosen to form the project teams. These activities constituted the 1st stage of the pattern.

In the second stage, the information obtained for the problem causes analysis was structured with the application of quality tools such as: cause-effect diagram, affinity diagram, the five whys, among others. The immediate solutions to the problems and the community preventive services ideas were obtained through brainstorming sessions, and afterwards the team evaluated the technical and economic viability.

With the approval of this first version of the pattern by the PMMG Major State, four police officers from two units of the capital were chosen to put into practice the application of the pattern. These officers have started the implementation of the pattern attached to the communities of the unit's area and all this work has been closely monitored by the research team. This was the third phase of the schedule proposed above.

The initial outcomes of this first version of the pattern demonstrated that there was no internal resistance from the corporation's officers in the execution of activities, and that the Major State and the members of the CONSEP have approved it with few changes. However, it must be said that the implementation of this new pattern cannot happen suddenly. It is a continuous and progressive work that demands new pilot-projects in the units for a better visualization of the implementation difficulties and obstacles. With regard to the creation of an instrument to gather, evaluate and select new services ideas and the internal release of new preventive services, the work schedule was divided into three phases: 1st phase, organization of seminars about ways of gathering and evaluating ideas, and release of new products and services; 2nd phase, formulation of a filling form for newly created services and ideas, management flowchart, definition of rewards for ideas and services, incorporation of the instrument in a computer system, and final validation tests; and 3rd phase, final considerations about the work carried out by the team and presentation of the outcomes to the PMMG Major State.

The final outcome of this intervention is a system integrated to the intranet and to the PMMG Web site to collect ideas from internal and external sources to the Corporation and to release internally new services. The procedure is simple: firstly, policemen or people from the community fill in a form describing their idea of service (for the new services, the creator unit fills in a more detailed form); secondly, a commission of officers from the Public Security Learning Institute receives and evaluates the ideas and the services based on a criteria list, to select the best ideas that will become new projects and to approve the services that will be incorporated to the corporation's electronic services portfolio; and, thirdly, the units which had their services approved and the people who had their services accepted are rewarded by the Major State. In order to make the new system known and to have an effective participation from all the corporation, a campaign was created with the following slogan: "Ideas against the crime". In addition to this, all the preventive services and operations that already were at the PMMG portfolio (DIAO) were transposed to the new computer system.

Although it has a great potential of success, this system could fail if: 1) the reward incentives are not well applied, which can cause feelings of injustice in the awards; 2) there lacks continuous public campaign to guarantee the generation of new ideas and new services; and 3) there are not investment acquisition and maintenance of computers necessary to the units so as they can have access to the service portfolio through the intranet. It is hoped that, as soon as the ideas and prevention services start to come up in the corporation, the units commandants can implement the services already developed and the IESP researchers can work in the transformation of new ideas into services.

Concluding Remarks

This study aimed to inquire to which extend conceptual-theoretical basis of SDM used in private companies can be adapted and be relevant to the service planning of a public security institution. The conclusion of this study is that the transposition of this conceptual-theoretical basis from the private companies to the PMMG is possible with few adaptations, which are mainly related to the corporation's nature. The adaptations, together with the benefits that may come with the implementation, are listed bellow:

- Different of private companies, which formulate formal development processes pursuing to increase service quality and reduce costs and development time in order to have competitive advantages over their competitors, the PMMG model was created to facilitate the work between the military police, the community and its partners, to reduce the response time for a service preventive demand claimed by the community, and to raise the chances of service success;
- 2. The incorporation into this pattern of some successful practices in the products and services development, such as project multidisciplinary teams, participation of front line people and partner, and strong orientation to the market pursuing to incorporate "client voice" in the planning, was made easier because of the similarities between these practices and the principles of community policing and policing oriented to problem solution;
- 3. The theoretical basis about idea generation was used with a few adaptations, and the recommendations of listening to citizens-customers' suggestions and to those who are in direct contact with them were incorporated to the created system. There were no differences between the criteria chosen for idea selection and new services approval from the ones used by private companies. In the PMMG, these criteria have the aim of avoiding situations where services that are not viable or services that go against the ethical conduct of the police work are incorporated into the portfolio;
- 4. The service internal release for the corporation is important as a way to reduce the preventive response time to the communities and to reduce costs in the services and solutions development. The internal release was considered by the corporation as a stage that has to succeed the external release. Besides this, it was noticed that the intranet can be an efficient channel to promote the internal release, and all the information about new services have to be obtained so as its concept is not lost in its transposition from one unit to another;
- 5. One of the starting points for the formulation of the new management pattern for preventive service development of PMMG was the theoretical review. The management models showed to be helpful in revealing various possible structures for new service development. However, there is a lack of specific literature on how to formulate a management model for security service development. A solution to this was obtained through informal interviews with researchers who have experience in this area; and
- 6. The incorporation of evaluation points in the PMMG management model reflects great similarity to the stage-gate model. During its conception, the development team understood that the evaluation points, i.e. "gates", were necessary to provide, simultaneously, autonomy to the frontline policemen and a possibility of controlling to the unit commandant.

After the approval by the PMMG Major State, the model for new preventive service development was tested for a period of three months in a unit of PMMG in the state capital. During the implementation process, two frontline policemen of that unit were trained and they conceived two new types of community preventive services using the model. Although these two new services have not resulted in a significant reduction of criminality rate in the unit area, they have enhanced the subjective security of the community. This has been shown through the increase in community participation in meetings with the police. In addition, according to the unit commandant, the model made the integrated planning of preventive services easier as it offered a clearer definition of the responsibilities of all parties involved (Municipal Government, Civil Police, Community Association, and PMMG).

These results have motivated the PMMG and the State Secretary of Social Defense to extend the application of the model to all units of the capital city, with the participation of the team that took part in this project. The model is presented in the officer training course of Academy of Military Police at Belo Horizonte, and it has been an object of interest of police from other states.

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