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The Managerial Role of Pharmacist at Community Pharmacy Setting in Saudi Arabia

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ABSTRACT

In Saudi Arabia community pharmacies by law, be owned and managed by pharmacists. Although these two functions seemed to be the same but in reality, they are not. Some studies showed that in community pharmacy managerial functions account for more than 50% of total routine and critical activity for all managerial position surveyed while other study showed that only 13.6% of the pharmacist's time spent in administrative activities. This article addressed the role of the pharmacist as manager and the way in which he/she manages the pharmacy to ensure optimum productivity. The main part of this review discussed the managerial role of pharmacist in management of human resources, financial resources, marketing, inventory, information resources and space management of the pharmacy. Additionally, the management process, professional skills of managers, development of managerial skills, problems in management process and their resolution were also discussed. In addition to management functions which also include planning, organizing, leading, and controlling processes. The author concluded that the skills of pharmacy managers may vary because of the lack of formalized management training programs. To bridges a gap in management education, interested pharmacists should be encouraged to shift their career goals from professional to pharmacy administration. In addition, expansion of curricula in pharmacy management to include management training of highest possible caliber in managerial skills is highly demanded. Formalized management training programs for those involved in community pharmacy practice are also warranted.

Keywords: Community Pharmacy; Management; Saudi Arabia; Marketing; Inventory; MBO; Personnel; Finance

1. Introduction

Pharmacy manager can be defined as a pharmacist who is responsible to the owner (proprietor) for all aspects of business including employing and termination of the staff, entire business administration and financial and performance planning [1]. He is also responsible to maintain and enforce policies and procedures to comply with standard of pharmacy practice as stated within current community pharmacy legislations [2].

In Saudi Arabia community pharmacies by law, be owned and managed by pharmacists [3,4]. Although these two functions seemed to be the same but in reality, they are not. Ownership is concerned with risk taking, independence, personal self satisfaction as well as the desire for making money and the willingness to play an important role in the community's life [5,6]. On the other hand, management involves accepting responsibilities for achieving the pharmacies' goals through planning, organizing, leading and coordinating and controlling the human, physical, and financial, marketing as well as information resources [6,7] Although, every pharmacy needs a manager; some small pharmacies are self-managed by their owners.

Studies showed that in community pharmacy managerial functions account for more than 50% of total routine and critical activity for all managerial position surveyed. Within routine managerial category of the work, community pharmacists were involved more frequently with inventory and financial matters, whereas, within critical managerial activity of work, proprietors were occupied most frequently by sale, promotion and public relation activities [8-10] In contrast other study showed that only 13.6% of the pharmacist's time spent in administrative activities [11].

In community pharmacy, resources are scarce and can be identified as staff, finance, customers and pharmacy itself. Community pharmacies in part as a business together with other small business share one vital factor in common, that is to say they run in very limited resources. Inadequate manage of these resources can lead to business failure. Accordingly, many pharmacy managers mo-

tivated and energized their employee to ensure effective and efficient use of these resources. In general, by effectiveness is meant the ability to satisfy the need of the owners at a profit without paying attention to the proper utilization of resources, whereas, efficacy refers to the ability to use these limited resources economically and productively. Therefore, when combining these two terms in practice, one can achieve optimum utilization of his/-her limited resources. This article will address the role of the pharmacist as manager and the way in which he/she manages the pharmacy to ensure optimum productivity.

2. Main Part of Reviews

2.1. Human Resource Management

Human resources refer to individuals within the pharmacy, or the portion of the pharmacy's organization that deals with employing, firing, training and other personnel issues. Human resource probably is the most important aspects of pharmacy practice. It aims at hiring a competitive and committed staff to meet the needs of the consumers. It is also deals with techniques and principles for selecting and maintaining a skilled and motivated work force [12]. Human resources are the most expensive investment and provide the greatest opportunity to secure a competitive gain over other pharmacies. Though, if they are inadequately managed they can cause greater damage to the business [2]. Well-developed job descriptions are extremely important in addressing many personnel issues. They are often used to establish factors such salary ranges, defines performance expectations, individual's responsibilities and goals and write performance evaluations. The position description should contain detailed information on the knowledge, skills, experience and abilities that acceptable candidate should possess. The following information may be included in a position description: 1) Position title and position control number, if applicable; 2) Duties, essential job functions and responsibilities of the position; 3) Education, training, experience and licensure required; 4) Knowledge, skills and abilities required to perform assigned duties; 5) Reporting relationship; 6) Salary range; 7) Education and training required to maintain competence; 8) Other specification of the position that required meeting legal requirements. Personnel selection program to hire individual or group of individuals to fill vacancies within the pharmacy should also be identified. For example, recruiting and selecting new staff pharmacists the college of pharmacy is the best source at graduation time, whereas, for appointing experienced pharmacists for managerial positions, hospitals, other pharmacies, government and industry are more suitable sources. Similar, different means may be used to select nonprofessional personnel. The selection process of personnel is very critical and is often based on an initial job analysis. The ultimate goal of personnel selection is to make sure the productivity of new hire warrants the costs spent in recruiting and training that hire. Several methods exist that may be used in personnel selection. For example, the use of minimum or desired qualifications, resume/application review, oral interviews, and work performance measures (e.g. writing skills) and traditional tests (e.g. job knowledge) are the most common chosen methods. However, with regard to the selection process, pharmacy manger must confirm that staff members who employed to practice as pharmacists hold valid license. In addition, he must notify the authority in writing about the appointment, registration and termination of the pharmacy staff as they occurred. The pharmacy manager should notify the authority in writing at least 30 days before give up an appointment as pharmacy manager. Moreover, he is responsible to ensure those pharmacists and other staff levels corresponding with workload volume and patient care requirements at all times [10]. Recruitment process will depend on the type of the position being filled. For example strategies for filling a support staff position may not be appropriate when searching for management candidate and vice versa. Furthermore, the responsibility of the manager is to orient and train the new employee in order to influence their commitment, job success and satisfaction. An effective orientation must include components such as through understanding of the way in which certain tasks are performed, an explanation how and when to obtain information, and details regarding working relationships as well as descriptions of job behavior standard [3,13]. All employees within the pharmacy must be motivated to exert sufficient effort to achieve organizational objectives. Many techniques exists that can be used in employee motivations. These include: 1) Resolve conflicting motives, in which the manager help the individual make choices best fitted to long-range organizational goals, with the least conflict with individual goals; 2) Competition as motivator: this technique can be demonstrated by how well most individuals are motivated in recreational activities which are competitive in nature; 3) Incentives as motivators, higher level incentives such as promotion and recognition are generally more effective than monetary rewards [14].

2.2. Financial Management

Appropriate management of financial resources requires an accurate, reliable and efficient system for recording and reporting financial transactions [2]. Pharmacy managers and owners employing current ratio, acid test ratio and rate of return on net sale, to measure liquidity, solvency and financial position as well as profitability see **Table 1**. Although the current and acid test ratios are

effective ways to analyze pharmacy liquidity, working capital and cash flows are also other workable tools for analyzing liquidity. In real practice, it is convenient to state ratios in different ways, even though the usual way is to express these ratios in percentage In addition, horizontal and vertical analysis are another useful strategies for computing the change in financial account of the pharmacy within range of certain periods (see **Tables 1** and **2**). The data collected from these accounting statements and tools can provide a useful database for making more decisions about the current financial position as well as for monitoring financial performance [3]. Yet they are not seems to be crystal balls that predict the future pharmacy's financial position [15]. In current unstable environment special attention should be paid to gross profit, cash flows, liquidity, working capital requirements [2].

In horizontal analysis (**Table 3**) the amount of change for items of sales and net income for the periods between 2001 and 2002 can be calculated as follows:

The amount of change = 70,000 − 50,000 = 20,000 SR

Amount% = (20,000 + 50,000) × 100 = 40%

The amount of change in the net income = 2700 − 2000 = 700 SR

Amount % = (700 ÷ 2000) × 100 = 35%

It is clear from the above example that the pharmacy has a percentage increase in sales that approximately 1.14 the percentage increase as net income between 2001 and 2002.

Using formula in **Table 1** and information in **Table 2** for the years 2004 and 2005, liquidity can be calculated as follows:

Quick assets = Current assets − inventory

Quick assets = 78,000 − 36,000 = 42,000 SR

Liquidity for the year 2004 = 42,000 ÷ 31,000 = 1.36:1

Quick assets for 2005 = 111,000 − 45,000 = 66,000

Liquidity = 66,000 ÷ 37,580 = 1.76:1

This means that there is an increase in liquidity in the year 2005 compared with the year 2004 and in both years, there is enough cash to cover the current liabilities.

Table 1. Ratios that describe how pharmacy meets its obligations.

Tools	Method uses calculation of ratios
Liquidity: (*i.e*. pharmacy's ability to pay of its short term debts)	Acid test ratio = quick assets (e.g. cash, accounts receivable and short term securities) divided by current liabilities (QA:CL). The best ratio is usually 1:1
Solvency: (*i.e*. pharmacy's ability to meet its long term debt obligations)	Current ratio [current assets (e.g. cash, accounts receivable and inventory) divided by current liabilities (CA:CL)]
Financial position: (*i.e*. pharmacy ability to pay its current and long term debts)	Ratio of total liabilities divided by net worth or owner's equity (TL:NW).
Profitability	Rate of return on net sales [Net income divided by Net sales (NP:NS)]
Working capital	Current assets minus current liabilities
Statement of cash flows	Cash flow involved in operating activities minus (cash flow from investing activities plus cash flow from financing activities)

Table 2. Vertical analysis* of a balance sheet.

Current assets	2004	Vertical analysis %	2005	Vertical analysis %
Cash	SR 16,000	7.1	SR 32,000	12.3
Account receivable	SR 26,000	11.5	SR 34,000	13.0
Inventory	SR 36,000	15.9	SR 45,000	17.2
Total current assets	**SR 78,000**	**34.5**	**SRI 11,000**	**42.5**
Fixed assets				
Land	SR 8000	3.5	SR 8000	3.1
Building	SR 116,000	51.1	SR 119,000	45.6
Equipments and fixtures	SR 25,000	11.0	SR 23,000	8.8
Total fixed assets	**SR 149,000**	**65.6**	**SR 150,000**	**57.5**
Total assets	**SR 227,000**	**100.0**	**SR 261,000**	**100.0**
Debts	SR 23,000		SR 26,580	
Payable expenses	SR 8000		SR 11,000	
Total liabilities	SR 31,000		SR 37,580	

*The vertical analysis refers to any account of current assets and fixed assets divided by the total assets (e.g. cash account/total assets).

Table 3. Horizontal analysis.

Items	Accounts					Amount of change %				
Year	2001	2002	2003	2004	2005	2001	02	03	04	05
Sales	50,000	70,000	75,000	1,000,000	125,000	100	140	150	200	250
Net income	2000	2700	3450	4900	7000	100	135	173	245	350
Current assets	25,000	35,000	40,000	45,000	60,000	100	140	160	180	240
Fixed assets	30,000	28,500	40,000	35,000	36,000	100	95	133	117	120
Liabilities	10,000	18,500	22,500	27,500	40,000	100	85	225	275	400

2.3. Space Management of the Pharmacy

Space management process concerns with planning and designing the physical environment within which specific task(s) in the pharmacy is/are performed, with particular emphasis on the location of work station and check counters as well as environment of interior and exterior of the pharmacy such as combination of light, air conditioning, entrance decor and colors. Poor planned workflow and layout design lead to low productivity [16]. In case that the pharmacy remodeled or renovation pharmacy manager is responsible to apprise the authority in writing of the proposed pharmacy or structure renovation and submit the new diagram for approval before the commencement of construction. Also he should notify the authority in case of closure or relocation of the pharmacy [10].

2.4. Marketing Management

Marketing is the management process of anticipating, identifying and satisfying consumer requirements profitably. Additionally the process involves researching the customer needs and wants, developing strategies, product lifecycle management, pricing, financing promotion and distribution of goods, maintaining customers' records, delivering product and services and monitoring customer satisfaction. In other words, marketing is looked at as the activity that links a business with its environment [14, 17-23]. The environment includes all elements outside the boundary of the pharmacy such as consumers, patients, doctors and other community groups. Success in marketing measures the manager's ability to attract new customers and extends and expands relationship with loyal customers in a way that will achieve pharmacy objectives. This involves targeting strategies to meet specific needs and continuously evaluating their effectiveness. Furthermore, communication is an important feature for marketing. Success depends on commitment to get used to the change takes place in the market and effective communication with customers [2].

Marketing can be used to solve almost any problem in pharmacy. It can be used in influence change in practice settings and in enhancing job effectiveness. Marking can help patients to stick on medication plan, physician to prescribe medicines properly and management to support pharmacy practice programs. It can be used to recruit good quality staff, attract and keep patients, provide new services and compete with other professions for a portion of health care better.

Pharmacy managers involved in marketing management should attain the knowledge of: 1) Understanding the economic structure of his/her business; 2) Identifying the marketing strategy which best fits his/her business; 3) Identifying his/her target market; 4) Understanding his/her competitors and their product; 5) Establishing environmental scanning mechanisms to detect opportunities and threats that face his/her business; 6) Developing marketing strategies taking in consideration marketing elements of price, product, distribution and promotion; 7) Creating a sustainable competitive advantage; 8) Understanding his/her business strength and weakness [14].

2.5. Inventory Management

Managing a drug inventory can be viewed as an inextricable component of purchasing process. Because the drug inventory represents a significant investment for any pharmacy, the goal of inventory management is to maintain the minimum amount of necessary inventory to control drug costs and to have a sufficient supply of products for good customer service. The consequence of poorly planned inventory purchasing is low productivity. There are many ways of managing inventory, ranging from visual inspection of stock to computerized accounting of items entered and removed from inventory at the time of stocking and the time of purchasing. Also, one of the most measures of inventory control is the inventory turnover rate (ITR). The turnover ratio provides data on how fast a pharmacy's inventory sold and when repurchased for stocking. A high ITR indicates frequent and continued sales and profits. This ratio also indicates how frequently the pharmacy sells its average level of inventory annually. This in turn generates a need for immediate cash, which making cash unavailable to meet current liabilities, but it supports pharmacy's solvency by providing vital data on the timing cash inflows and outflows from current assets. For optimal calculation of turnover

see example below.

Many types of costs are associated with inventory, including acquisition costs (purchasing costs), procurement costs, stocking costs, bookkeeping costs and carrying costs (storage cost). The sum of all these costs produces the total cost. Considering all these costs many pharmacy mangers choose their order based on their prior experience. However, the most precise way is to use a scientific method of ordering [*i.e.* economic order quantity (EOQ)], in order, to determine the optimum quantity of the product in terms of physical unit and money wise. The calculation of EOQ is based on the following equation:

$$\text{EOQ}=\left[\frac{(2\times\text{Annual usage})\times(\text{ordering costs})}{(\text{carrying cost}\%\times\text{unit cost})}\right]$$

Consider the following example. A pharmacy sold 1800 bottles of drug A annually and each order costs SR 15 for a total Riyal valium of 2400. The procurement cost of a single bottle is 1.5 SR and the carrying cost is 10% annually. Calculate the economic order quantity. The EOQ is 360 units or will be as follows:

$$\text{EOQ}=\left[\frac{(2\times1800)\times(\text{Si?}\ 15.00)}{(\text{SR}0.15)}\right]=600\ \text{bottles per order}$$

The pharmacy should order 600 bottles of drug A about 3 (1800/600) times per year or about 17 weeks (52/3).

Because of the inherited lag time between ordering and receiving and stocking the received items in the pharmacy, the pharmacy manager needs to have a minimum quantity of items in his stock. In other words he needs to have an idea of when to reorder or the reorder point (ROP). The reorder point is the point at which the manager needs to reorder inventory to assume adequate supply for the customer. The ROP equation would be as follows: ROP = DR × LT + SS

DR (Usage rate) = the amount of products used or sold within a given period of time.

LT (Lead time) = the amount of time it takes to order and receive product from a supplier.

SS (Safety stock) = the safeguard of product kept on hand to accommodate increases in demand or longer than expected LTs.

In the aforementioned example, assume that it takes 3 days to receive the order from the supplier, with usage rate of 5 bottles per day (1800/365 days per year) and safety stock (SS) of 3-day supply. Therefore, the equation will be:

$$\text{ROP} = 3\ \text{bottles/day}\times 2\ \text{days LT} + 3\ \text{days SS ROP}$$
$$= 9\ \text{bottles}$$

So, the pharmacy manger should reorder the EOQ of 600 bottles of drug A, when there are 9 bottles remained in the stock.

Since inventory turnover ratio or rate (ITR), is consider one of the most common measuring tool of the inventory control, it can be calculated using the following formula: TO = COGS/AI,

where,

TO = Inventory turnover

COGS = Costs of good sold

AI = Average cost

To illustrate how this equation might work let assume a pharmacy records reflect that the beginning inventory (BI) was SR 140,000, the purchase made during the period (P) amounted to SR 450,000 and the ending inventory (EI) was SR I20,000. The ITR can be calculated as follows:

Good available for sale (GAFS) = BI + P

GAFS = 14,000 + 450,000 = RS 590,000

COGS = GAFS − EI

COGS = 590,000 − 120,000 = SR 470,000

AI = BI + EI/2

AI = 140,000 + 120,000/2 = 260,000/2 = 130,000

TO = 480,000 ÷ 125,000 = 3.6

Having turnover rate of 3 or 4 means that the inventory remains unsold on the shelves for an average of 90 (360/4) to 120 (360/3) days.

2.6. Information Resource Management

Information resource management is a system that collects and process information and provide to mangers of all levels that use it for decision making, planning program implementation and control. An information system is comprised of the components that collect, manipulate and disseminate information. It is usually includes hardware, software, [24], people communication systems such as telephone lines, faxes and data itself. The responsibility of the pharmacy manager is to make certain that adequate information resources are available [25]. Also he/-she ensures that new information directed to the community pharmacy pertaining to drug devices and drug diversion tactics is immediately accessible to staff.

3. Discussion

The management process (Management by objectives, MBO). Management by objective is basic, simple and flexible style of management, it can be defined as [26], "the process whereby the superior and subordinate managers of an organization jointly identify its common goals, define each individual's major area of responsibility in terms of results expected from him and use these methods as guides for operating the unit and assessing the contribution of each of its members". This definition can be applied even to small independent pharmacies with a single owner to large ones, as well as wholesaler

and pharmaceutical manufacturer. Mainly, there are three steps in MBO process. These include preparation, implementation and evaluation (assessment). The first step in management process is the preparation which involves setting goals of the organization and plans and anticipating changes and revises goals and plans to deal with them. The most common goals to be achieved in business in community pharmacy are: 1) Profitability; 2) Competitive position in the market; 3) Expense control for both financial and dispensing; 4) Productivity *i.e*. increases in sales; 5) Employee relations include turnover rate, average occupancy position, reported complains and suggestions; 6) Consumers' relations which involve reported complain and returned goods; 7) Professional relations involve pharmacist average tenure position and health provider complains reports; 8) Inventory control including locating sources of purchasing and determining turnover rates, out-of-stock incidences and economic order quantity. The second step is to implement these plans to stand any chance of success. This step requires utilizing the basic organizational structure with trained and motivated staff, effective communication, leadership operations and financial support to turn input to output. The final step is constant evaluation in order to assess and measure the results of achieved plan to see if they are working or further innovations are needed [2]. The data in **Figure 1**, show how resource input (such as personnel, finance, operations and customers) is transformed into need-satisfy output (e.g. products, services, profit and satisfaction), through the management process.

3.1. Professional Skills of Managers

To be effective in the practice of management, pharmacy managers need to optimize their skills [27,28] Despite the pressure faced by pharmacy managers, little information is available on what manager skills are necessary for optimal proficiency [29,30]. Nevertheless, management is an art and successful mangers should attain the following skills: 1) understanding how parts within the pharmacy interrelated as well as analyzing situation and developing plans; 2) Intellectual skills such as logical thinking, effective decision making and solving problems; 4) Interpersonal or interactive skills that allow one's to work well with or through other people and communicate effectively when speaking or writing; 5) Technical skills such as tools and knowledge in order to perform professional at various levels; 6) Perform prospective and retrospective financial and clinical outcomes analysis; 7) Construct reports and recommend plans to improve outcomes based on the analysis of financial and clinical outcome data; 8) Understand the operating principles of manage care; 9) Understand various management theories and their applications; 10) Manage changes effectively; 11) Effectively meets consumers' needs; 12) Understand the process of solving unanticipated problems, resource allocation, negotiating and implementing contracts with vendors; 13) Participate in the implementation of marketing program; 14) Accept responsibility for accurate evaluation of one's own work; 15) understand the role of empowerment and delegation in achieving the pharmacy's mission; 16) Take personnel responsibility for attaining excellence in one's own ability to provide leadership for the pharmacy; 17) Describe the ability to identify and handle one's feeling; 18) Understand how to work well with other people outside the pharmacy and create an atmosphere that facilitates communication with the customers; 19) Understand how to deal effectively with work follow and layout design of the pharmacy; 20) The ability to implement recruitment and selection programs on the basis of the job specification and vacant position in the pharmacy.

3.2. Development of Managerial Skills

Pharmacy manager usually acquires skills by education, training, mentoring and experience [5]. However, implementation of an effective and efficient education and training programs appear to be an appropriate intervention to address this need [20].

3.3. Problems in Management Process and Their Resolution

Many problems encountered in management process, if not solved they will threaten the business success. However, the most common problems faced small business

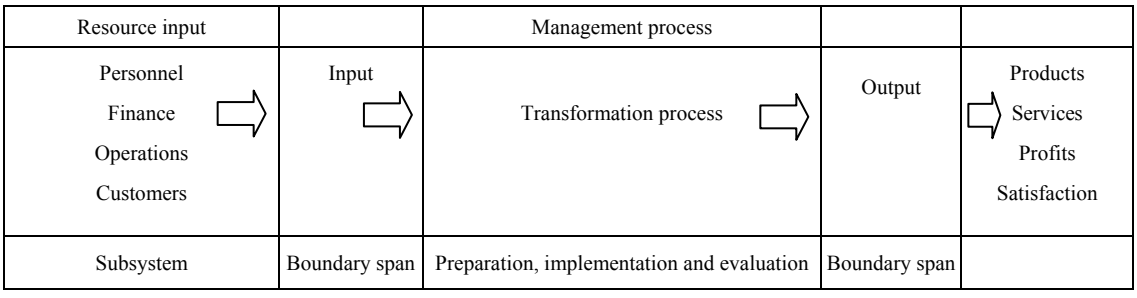

Figure 1. Conversion process of input to output within pharmacy structure.

management can be cited as follows [30]: 1) Poor communication; 2) Inability to delegate (empower) responsibilities to staff employee; 3) Lack of alignment; 4) Inadequate training of subordinate; 5) Confronting poor performance; 6) Gross financial conflict; 7) Training senior manager; 8) Fascination with programs.

The appropriate implementation of the concept of the MBO can greatly help in solving these problems [26].

3.4. Management Functions

One can also look at management functionally as the action taken to achieve one's planned goals. The functions that comprise the management process are: planning, organizing, leading and controlling [2,3].

3.4.1. Planning

Planning is a process that describes how a pharmacy manager predetermined a course of action. It is involves determining goals, and decide on the most appropriate strategy. A plan is set up to implant strategy and all the action steps which must be performed are listed in order of priority. The resources required to complete each step are identified and the budget is prepared. Finally, policies and procedures are drawn up to ensure that anticipated problems are handled effectively and efficiently.

3.4.2. Organizing

In practice, before starting the management process, an effective structure should be established to achieve the goals. Define and assign tasks and coordinating people and resources. Relationship between staff is established to allow for effective communications, participation and delegation of responsibilities.

3.4.3. Leading

Leading is the process of influencing others to work together to take effective action to implement strategy. Staffs are selected trained to ensure that they have appropriate knowledge and skills to carry out the job assigned to them. As a leader the pharmacy manager should be able to solve problems, direct and motivate the staff.

3.4.4. Controlling

Controlling is the process of establishing standard based upon objectives, measuring and evaluating performance revising progress and making correction and preventive action to match the goals.

4. Conclusion

Although some pharmacists have taken courses in business management and few others have enrolled for and completed postgraduate programs in management and business leadership, however, most training of pharmacy managers occurs primarily on the job. Therefore, the skills of pharmacy managers may vary because of the lack of formalized management training programs. To bridges a gap in management education, interested pharmacists should be encouraged to shift their career goals from professional to pharmacy administration. In addition, expansion of curricula in pharmacy management to include management training of highest possible caliber in managerial skills is highly demanded. Formalized management training programs for those involved in community pharmacy practice are also warranted.

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