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Achieving Organizational Effectiveness from Business to Employee (B2E) E-Business Model

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Abstract
This paper discusses the business to employee (B2E) e-business model and how it leads to the achievement of organizational effectiveness. It explains the technology that supports the development of the model, and a discussion of benefits and applications identified from a review of literature. Based on three case studies of Australian organizations the discussion in this paper extends the theory of competing values theory to establish organizational effectiveness achieved from B2E e-business model. The findings discussed in this paper highlight that important internal processes and development of the human capital lead to the achievement of external success for business organizations. It makes a significant contribution to literature and theory on e-business.

Keywords
B2E e-business model, organizational effectiveness, competing values framework, intranets, portals, ERP systems, employee relationship management
Introduction

B2E (business to employee) e-business is defined as the exchange of goods, services, and information among various units and individuals in an organization involving intra-business and internal organizational activities (Turban et al., 2006). Business in B2E refers to the organization. The B2E model includes online business processes, online people management, and online services to the workplace community (Hansen and Deimler, 2001; Singh, Waddell and Rahim, 2008). Large organizations around the world have adopted some form of employee related technologies combined with Intranets to provide services to employees and to support employee related work. The Intranets emulate the Internet protocols of hypertext technology, links, and browsers (Singh, Waddell and Rahim, 2008). Similar to the B2C and B2B, the B2E e-business model is technology based, involves stakeholders such as the organization and employees, and entails business, technology and management issues (Hawking et al., 2004, Turban et al., 2006). B2E is based on Intranet technology, as B2B is established on Extranets and the Internet, and B2C on the Internet (Singh, 2002).

Benefits of the B2E e-business model according to Rahim and Singh (2007) have been categorized into organizational benefits and employee benefits. Organizational benefits achieved from the B2E model are improved internal processes and easy access to corporate information, (Singh, Waddell and Rahim, 2008), cost savings (Farhoomand and Lovelock (2001), integrated business processes (Huang, Jin & Yang, 2004) and better organizational decisions (Dafoulas et al., 2002). Employee benefits from the B2E models are easy access to information, ability to work remotely and in teams, ability to enhance skills with online training and a more productive workforce (Singh, Waddell and Rahim, 2008).

However, do these organizational and employee benefits translate into organizational effectiveness by adopting the B2E model of e-business is yet to be established. Academic literature on the B2E e-business model is sparse compared to other e-business models such as B2C and B2B. This paper introduces the B2E e-business model, its application in organizations, improvements and effectiveness achieved from the B2E model. It extends the use of Competing Values Framework to discuss organizational effectiveness attained from B2E e-business model. The following sections of the paper include a review of literature, a discussion of the Competing Values Framework to understand the impact of B2E on organizational effectiveness, research methodology, findings from three organizations and a discussion of organizational effectiveness achieved from B2E.

Literature Review

B2E e-business is the electronic delivery of a variety of services (Tojib et al., 2005), information and products (Turban et al., 2006) by an organization to its employees. It facilitates online business activities with integrated online business processes (Singh, Waddell and Rahim, 2008) collaborative tools (Turban et al., 2006), electronic files with organizational documents, policies, instruction booklets (Ash and Burn, 2003), and staff training (Baldwin-Evans, 2006). It also incorporates online management of human resource (HR) functions such as the employee support systems with pay details and personal information (Hawking et al., 2004). The B2E model electronically manages organizational functions and processes related to managing business processes, employees, HR functions, communication and training via Intranets and other organization specific technologies.

Technologies Supporting B2E Applications

The important technologies supporting B2E e-business model include Intranets (Hopkins and Makham, 2003, Singh, Waddell and Rahim, 2008, Stenmark, 2003), employee portals (Benbya et al., 2004, Rahim et al., 2005, Tojib et al., 2005) and enterprise resource planning (ERP) systems (Hawking et al., 2004, Rao, 2005). Intranets are combined with portals for communication, access to organizational information, and processes supporting communication, collaboration, knowledge management, training, employee networking and other services to employees (Baldwin-Evans, 2006); Singh, Waddell and Rahim, 2008);
Tojib, Sugianto & Rahim (2005)). ERP Systems integrate organizational business processes allowing employees to access information via the Intranet and portals, to work on business processes from their desktops and remotely, to complete tasks. It is thus noted that the Intranet is combined with other technologies, more commonly portals and ERP systems for the delivery of employee services and organizational management via the B2E e-business model.

**B2E Related Business Functions**

**Employee Support Services**
Employee support services included in the B2E model include management of employee and human resource functions with real-time access to personal data, updating of personal details, applying for leave, viewing pay details, internal job vacancies, training and travel approvals (Rahim et al., 2005, Singh, 2005). It also supports dispersed work groups working on common projects from different geographic locations (Hawking, Foster & Stein (2004a). The employee support system (ESS) streamlines business functions, improves data integrity and is a very important component of the B2E model (Hawking, Foster & Stein). Employees are able to take advantage of work-related training and enhance knowledge. Other employee incentives and benefits may include online bookstore, departmental store products, discounted coupons and travel opportunities (Huang, Jin & Yang, 2004). The B2E model supports employees improve work performance resulting in improved company performance (Bharadwaj, 2000).

The above discussion indicates that the two important components of the B2E model are organizational functions and employee functions.

**Benefits of B2E E-Business Model**
The B2E e-business model offer employees and organizations significant benefits. Employee benefits include better information access and management (White, 2000) improved information and knowledge exchange (Weekes & Beagrie, 2002; Kotorov & Hsu 2001; Singh, 2005), greater learning opportunities and enhanced skills (Huang, Jin & Yang, 2004). Employees are able to work collaboratively, in teams and produce better outcomes (McDowall, 2002, Singh, Waddell and Rahim, 2008). Organizational benefits achieved from B2E systems support process efficiencies, cost savings, reduced HR related administrative costs, and quick information dissemination (Tojib et al., 2005, Hawking et al., 2004; Rahim and Singh, 2007). Other benefits include continuous learning in the organization (Baldwin-Evans, 2006), and retention of skilled employees (Turban et al., 2006). From this discussion it is clear that the B2E model offers organizations enormous benefits, however, do these benefits transform into organizational effectiveness has not been formally explored. To establish this, the following research questions are proposed:

*How is the B2E e-business model implemented in organizations?*

*How does the value (outcomes) generated from B2E model result in organizational effectiveness?*
Organizational Effectiveness and Competing Values Framework (CVF)

Organizational Effectiveness (OE) according to Federman (2006) is the organization’s ability to assess resources and achieved objectives. Georgopoulous and Tannenbaum (1957) explain OE to be a combination of organizational productivity and flexibility in the form of successful adjustment to internal changes and externally induced change without any intra-organizational tension between sub groups. HermanMiller (2004) assert that organizational effectiveness is achieved when the impact of organization, workplace and technology design on behavior and work practices have a positive impact on market share, first to market, expense ratio, customer retention, worker compensation and new products. However, organizational effectiveness is difficult to measure which can be illustrated by a list of 30 different criteria for organizational effectiveness ranging from productivity to profits (Borell and Hedman, 2000). The CVF is an accepted method for assessing overall organizational effectiveness since it combines diverse indicators of performance. The four models of CVF (Quinn and Rohrbaugh, 1983) provide competing views on the meaning of organizational effectiveness. Human relations is characterized with a focus on internal flexibility to develop employee cohesion and moral and is focused on human resource development, participation and empowerment. Open systems model is focused on external flexibility and relies on readiness and flexibility to gain growth, resource acquisition, and external support. Internal process model is focussed on internal stability and control. Rational goal model is focused on external control and relies on planning and goal setting to gain an increase in productivity. CVF also incorporates three sets of competing values, flexibility and spontaneity vs stability and predictability (related to organizational structure); internal vs external (related to organizational focus) and means vs ends (Buenger et al., 1996).

Adapting the competing values framework to the B2E e-business model based on literature discussed above, the human relations model is the employee support system giving employees flexibility, cohesion, improved morale and online training supporting human resource development, participation and empowerment. The open system includes the quick responses to external partners, e-procurement resulting in resource acquisition and organizational growth. The internal process model includes the online information with integrated business processes enabling employees to complete their tasks at any time from any location leading to stability and control of internal organizational processes. The rational goal model is the internal improvements in planning and organizational goal setting for increased productivity. These four models are influenced by the sets of competing values discussed above.

Research Methodology

To establish the implementation of the B2E e-business model in Australian organizations and outcomes achieved from it, an exploratory study with three organizations was completed. Research paradigms used in IS studies are varied and generally include both qualitative and quantitative approaches (Kaplan and Duchon, 1988). This study used qualitative approach with the interpretive paradigm to explore the B2E e-business model. It adopted the case study strategy to understand the dynamics present within a single setting (Eisenhardt, 1989), in-depth knowledge (Hussey and Hussey, 1997), and phenomenon in a defined context (Miles and Huberman, 1994), the B2E e-business model. For this research, three case studies with organizations from three different industry sectors were undertaken via observations, document analysis, Intranet snapshots, and interviews with 13 participants from the three organizations. These case studies, enabled an understanding of organizational effectiveness achieved from this model. Analytic conclusions arising from two or more cases are more powerful than those coming from a single case (Yin, 2003). An open ended interview tool was used to collect data and record responses. All interviews were tape recorded and later transcribed for analysis. The interviewees ranged from managerial as well as non managerial staff. Data analysis was accomplished in three stages. Firstly, large quantities of raw transcribed data were processed using familiarisation and identification of themes (Miles and Huberman, 1994). Secondly, a cross case analysis of similar issues was carried out, and thirdly, phenomena context matching was used to establish organizational outcomes of B2E model. Theory triangulation was achieved by comparing findings with the conflicting and similar literature. Eisenhardt (1989) emphasises that such
comparisons increase theoretical intensity leading to internal validity and sharpening generalizability respectively.

**Case Studies**

The three case studies were:

**Case A** - An educational institute with 3,500 employees, manages its products and employees using Intranets, ERP Systems, portals, Employee Support Systems, and several other organizational specific technologies, all integrated to support the functions and employees of the organization. This is an innovative organization that implemented B2E for its internal management, B2C for servicing its clients and B2B for e-procurement. The B2E services offered to staff include online news, bulletin boards, media releases, ESS as the online human resource services including salary slips and leave applications, information technology services and helpdesk, email for communication, electronic administration, staff networking information online, news bulletins and surveys, online training modules, online assistance to operate and manage technology, research and development, annual reports, directories, digital learning system, finance, document tracking, travel and other organizational functions, and some non-work related support such as lifestyle advice. Beyond this, the organization provides departmental level Intranet based information. B2E implementation started in 2003 in a phased form. Reasons for adopting the B2E were internal restructure, improved business processes, and integrated systems and processes. Outcomes included transparency, better information management, flexibility, informed decisions, teamwork, faster communication, easy access to information, less workers for tasks, reduced paper costs, better service to clients and increased number of students and research funds.

**Case B** - A local government organization (city council), with 680 employees, that manages five suburbs and townships in one Australian state, Victoria. The B2E implementation at this organization includes corporate and staff news; online documents including meeting minutes, corporate calendar, policies, procedures and standards; online work tools with customer response service, GIS for eView, e-procurement, and work related contacts; HR applications of e-payslips and online training, directories and contact details, customer reprinting systems, work tool for all business functions and straight buy for e-procurement. B2E implementation was phased and is evolving. It started in 2000 and was adopted for innovation of business processes, internal restructure and improved information management. B2E is based on the Intranet, integrated with business processes and databases supporting organizational functions. Outcomes included reduced paper and people costs, better access to information, integrated business functions, satisfied employees and improved services to clients.

**Case C** - A large business organization, an insurance company with 500 employees at the branch investigated, and 18,000 all over the world. The B2E applications at this organization include email, communication with search and find, shared resources, announcements, external links to relevant information and processes and work tools. The work tools include administration, e-procurement, career finders, employee support services, online training, calendar, rewards, projects and other business function related information, information about the organization including departments, people and resources, announcements and quick links to form, documents and online claim submissions, performance evaluation, products and agents, manuals and procedures. Implementation of B2E started in 2001 and adoption was phased and ongoing. It was adopted for better information management, transparency, quick access to information and for adherence to standards and regulations. B2E is implemented on the Intranet and organizational specific technologies referred to as ‘wired’. Outcomes include better information management, transparency, better people management, easy access to information, improved organizational processes, flexibility, quick responses and satisfied customers.
Findings

To answer the first research question how is the B2E e-business model implemented in organizations, a cross-case analysis for B2E technologies, business functions and outcomes including benefits in the three organizations investigated are discussed in the following section.

Organization Characteristics

On the basis of the three cases it is noted that, all three organizations with B2E are large, operating in different industries, adopted B2E generally for innovation and improvement of internal business processes and informed employees. Thus it is inferred that organizations with B2E e-business model are mostly large and the implementation strategy is phased. Reasons for adopting B2E, however, are varied with a major focus being on innovation of internal processes, better information management and adherence to policies and standards, easing the work of the employees.

B2E Technology

The Intranet is the underlying technology for B2E e-business model in all three organizations combined with the portal in one, and organizational specific technologies in the other two. Within the Intranet, there are several applications addressing many business functions in all three organizations. This leads to the conclusion that B2E does not require a specific structure making it adaptable and suitable to different organizational structures.

B2E Applications

The general pattern or theme that the data revealed is that B2E applications tend to follow a stream of electronic news (e-news), electronic documents (e-documents), electronic information, e-HR applications, remote access, online training, information and knowledge sharing and e-work tools including integrated and automated business processes to support employee work and to enhance or innovate organizational processes.

E-Work Tools

Electronic work tools in B2E refer to e-business applications delivered via the Intranet as a service by the organization to their employee. These e-business applications utilize data from backend technologies such as databases and ERP systems and are accessible via the Intranet front end. The work tools are directly related to employee work and hence used on a regular basis to conduct business operations. The applications of e-work tools are different in each organization designed in accordance with the type of business and its functions. Hence it is clear that B2E systems can be integrated with other technologies to better support employees.

E-Information

E-information in the form of directories, databases and organizational processes saves employees time, improves communication, decision making and results in knowledgeable workers. In all three cases e-information improved data access, knowledge sharing, team work, supported quick decision making and efficiently completed tasks. Electronic access to information and emails available to employees also improved communication, delivery of responses to relevant parties conveniently and effectively. It helped organizations have a better control of processing and delivery of information, and making employees accountable for their tasks. It is clear that B2E leads to better information management in organizations.

Human Resource Applications (ESS)

All three B2E models included human resource functions with employee support systems. These included leave applications, payroll functions, and updating of employee personal information. HR administrative functions are a major part of B2E model where it streamlines HR related processes into simpler and quicker functions. It also reduced resources in terms of paper, time, and people required to process employee related requests.
Non Business Related Services to Employee
All three organizations included a few non-business related activities as well for their employees. At the education institute, these included online information regarding personal well being and leisure. The local council supported employee development through delivery of information on health plans and sale of organizational products. The insurance company allowed incentive programs such as “Plan your success and reward systems” via the B2E. The education institute conveyed information regarding seminars and workshops on various topics for their employee career development via the B2E model. It also consisted of online training on various topics supporting employees upgrade their skills in technology, presentation and publishing. This was also evident at the local council. The insurance company included interactive training modules that are particularly applicable to industry standards which employees are expected to know. In all three organizations an important employee development function was training. Thus all organizations included incentives, career development programs, internal job search, personal lifestyle support to its employees on the B2E.

E-Procurement
An important application integrated into the B2E model at all the three organizations was e-procurement for the purchase of organizational resources. Electronic procurement of office supplies and other resources at all three organizations was integrated with the B2E model allowing employees to procure goods from their desk tops. This saved time, resulted in transparency and accountability for all organizational purchases. Acquisition of resources to service the clients is easily obtained via the B2E model.

Impact of B2E on Organizational Performance
To answer the second question how does the value (outcomes) generated from B2E model impact organizational effectiveness, the outcomes identified from the three organizations investigated indicate that the B2E e-business model generates value for organizations and employees. As a result of the B2E applications discussed above, it is clear that many internal business functions are automated and improved as a result, business processes are re-engineered and streamlined resulting in improved tasks for employees. Moreover, it integrates information from various databases and brings them together into one centralised destination. All organizational communication is electronic and with the easy access to organizational information, policies and standards employees are more informed and knowledgeable about the organization’s issues. Any updated organizational communication messages regarding strategy, plans or policies are also mediated via announcements and bulletin boards. Electronic communication is also useful for tracking via electronic trails and submission dates. Outcomes achieved from the B2E model are discussed under sub headings in the following section.

Information Management
As seen in all three cases information from various levels such as corporate, department, employee, various databases, and functions are organized according to the corporate structure. In all three cases information management improved delivery and search for data and information that is critical for employees to make work decisions, and respond to customers. B2E also contains information such as policies for conducting business operations that the employees need as a point of reference in the course of their work. Better information management is achieved from B2E in the organization.

Strategic Planning
B2E streamlined internal processes for better administrative and business decisions with work tools and updated information. At all three organizations automated and integrated business processes supported employees in their day to day work. Online business processes also reduce costs, result in better decisions and enable organizations to respond to external demands effectively. Automated processes also warrant regular updates and accuracy in information. Online real time processing reduces duplication of work. Thus process efficiencies achieved from the B2E model supports accurate business decisions and quick responses to clients, customers and business partners. Online business processes together with work related information such as organizational strategies, policies and procedures lead to proactive planning for growth, meeting customer demands and achieving strategic goals.
Satisfied Employees
As seen in all three organizations, the B2E model offers the employees support in terms of easing their tasks, allowing them to work remotely, online training, collaborative opportunities, networking, searching information and familiarization with organizational issues, managing and planning their recreation leave and some non-business related services. Thus organizations become more resourceful of their employee capabilities, achieve employee satisfaction, empower them, and retain skilled people in the organization. In all the three cases it was noted that the B2E model led to improved employee relationship management.

Cost Savings
Due to automated processes time taken to complete work related operations are drastically reduced. Accordingly, resources are saved by having fewer employees take on more responsibilities. This enables organizations to reduce labour costs. Time and cost savings were also achieved from online delivery of industrial standards and updated information. With automated processes and electronic communication, organizations manage reduced paper costs as well. It is thus evident that B2E results in reduced resources, and significant cost savings.

Discussion and Contribution to Theory
The evaluation of B2E outcomes for organizational effectiveness based on the Competing Values Framework indicates that internal improvements achieved from B2E impact organizational effectiveness and external outcomes. The CVF entities are related to B2E applications to establish organizational effectiveness based on the CVF in Table One below.

<table>
<thead>
<tr>
<th>CVF Entities</th>
<th>B2E Applications</th>
<th>Organizational Effectiveness</th>
</tr>
</thead>
<tbody>
<tr>
<td>Human relations - flexibility and internal focus stressing on cohesion, moral and human resources development</td>
<td>ESS reduces administrative and paper costs, gives employees the freedom to manage some of their information, and maintains updated information. Flexible online training results in enhanced knowledge and a skilled workforce, informed decisions and better outcomes. Team work and networking leads to improved morale and better employee relationship management.</td>
<td>A multi-skilled and techno-centric workforce</td>
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<td></td>
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<td>A well informed workforce</td>
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<td></td>
<td></td>
<td>Knowledge sharing and team work</td>
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<td></td>
<td></td>
<td>Improved morale of employees</td>
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<td></td>
<td></td>
<td>Staff retention</td>
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<tr>
<td></td>
<td></td>
<td>Better employee relationship management</td>
</tr>
<tr>
<td>Internal processes - control and internal focus stressing the role of information management, communication, stability and control.</td>
<td>Integrated processes and online real time processing Improved communication and accountability achieved from electronic trails Accuracy of data Costs savings - more output with less resources.</td>
<td>Stability and control of internal processes and people</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Remote access of online information supporting better response to customers and business partners</td>
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Organizations can handle higher volume of customer requests and demands, acquire new customers and increase market share. Easily acquired resources for increased production, to offer enhanced services to customers and acquisition of new customers. Centralised and integrated operations enable flexibility, informed and quick responses to business partners.

Efficiency and effectiveness of business processes
Increased productivity

Open systems - flexibility and external focus stressing readiness, growth, resource acquisition and external support

Acquisition of new customers and increased market share
E-procurement of resources
Readiness and flexibility to gain growth
Quick responses to external stakeholders
Organizational growth

Rational goal -control and an external focus viewing planning, goal setting productivity and efficiency as effective

Steamlined business processes
Strategies, policies and procedures online
Employees able to align their work with organization goals and participate in strategic planning and goal setting

Table One Organizational Effectiveness from B2E

In Table One above Column One lists the CFV entities for internal and external processes. Column Two lists the equivalent B2E applications from the findings of research discussed earlier in this paper, and column three discusses the organizational effectiveness achieved from B2E e-business model based on the theory of competing values framework. From Table One it is apparent that for the B2E e-business model an important internal component is the employee support system (ESS) and HR management. This finding supports and confirms the views of Rahim et al. (2005) and Hawking, Foster & Stein (2004). It also confirms that ESS leads to improved employee relationship management (Singh, Waddell and Rahim, 2008). However, based on the CVF this research is one of the first to highlight that a cohesive workforce with improved morale and better human resource development is achieved from B2E e-business model. From Table One it is also apparent that B2E model leads to improved, integrated and automated business processes, confirming the opinions of Ash and Burn (2002) and Hawking, Foster & Stein (2004). It highlights that with integrated processes data accuracy and quick access to information enables employees to complete tasks efficiently, work on a number of different tasks leading to costs savings. This research highlights that electronic communication in organizations is important for integrity and accountability. Based on the CVF this research highlights that with the B2E e-business model better information management and electronic communication is achieved leading to stability and control of internal processes in organizations. Information presented in row three of Table One indicates that the B2E model enables organizations to acquire resources, and easily incorporate change to respond to external demands. Based on the CVF this research shows that B2E model supports readiness, flexibility, growth and resource acquisition for successfully meeting external demands from customers, market and the environment. This is a new finding and contribution to the theory of B2E e-business model. Findings presented in row four of Table One indicate that B2E model enables easy dissemination and understanding of all corporate information enabling participation from employees in planning and strategic goal setting for increased productivity, efficiency and effectiveness. This is also a new finding of this research. Thus findings of the research discussed in this paper highlight that the theory of competing values framework issues are easily translated to B2E entities with an internal as well as external focus. The two internal components are human relations and internal processes. In the B2E e-business model,
ESS and HR management are very important internal components for a cohesive, knowledgeable and skilled workforce. The B2E e-business model entails integrated and automated internal business processes, which is essential for information management, communication, stability and control in the organization. It also results in improvements to the internal organizational processes and entities, which are essential for preparing the organization to achieving growth in terms of new markets and business expansion, acquisition of required new and additional resources and finding external support. This is clearly evident from this research. This research also highlights that the B2E e-business model supports planning and strategic goal setting by aligning employees to tasks, getting employee participation for achieving the planned productivity efficiently and effectively. The research presented in this paper established organizational effectiveness achieved from the B2E e-business model.

**Conclusion**

This paper discusses the business to employee (B2E) e-business model, which is the ‘forgotten child of e-business’. Clearly academic literature on B2E e-business model is sparse. The discussion in this paper is based on case studies of three large Australian organizations in different industries. It illustrates how the B2E e-business model supports organizations streamline internal processes to meet external demands. Findings of research discussed in this paper clearly indicate that the B2E e-business model is equally applicable to organizations from any industry. It also highlights that although Intranet is the basic technology supporting the model, it can be integrated with various organizational and task specific technologies to achieve internal improvements for external success. This research clearly makes a contribution to the theory of the competing values framework by extending each of its four entities to B2E applications. The two important B2E applications that have an internal focus are people and information management supported by internal processes. The two external entities of the competing values framework that B2E supports are flexibility to meet external demands for growth and effective planning.

It highlights that the implementation of the B2E e-business models to manage, automate and innovate internal processes and services to employees results in organizational effectiveness. The paper extends the theory on e-business models by illustrating the B2E e-business model, development, implementation, applications and outcomes.

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